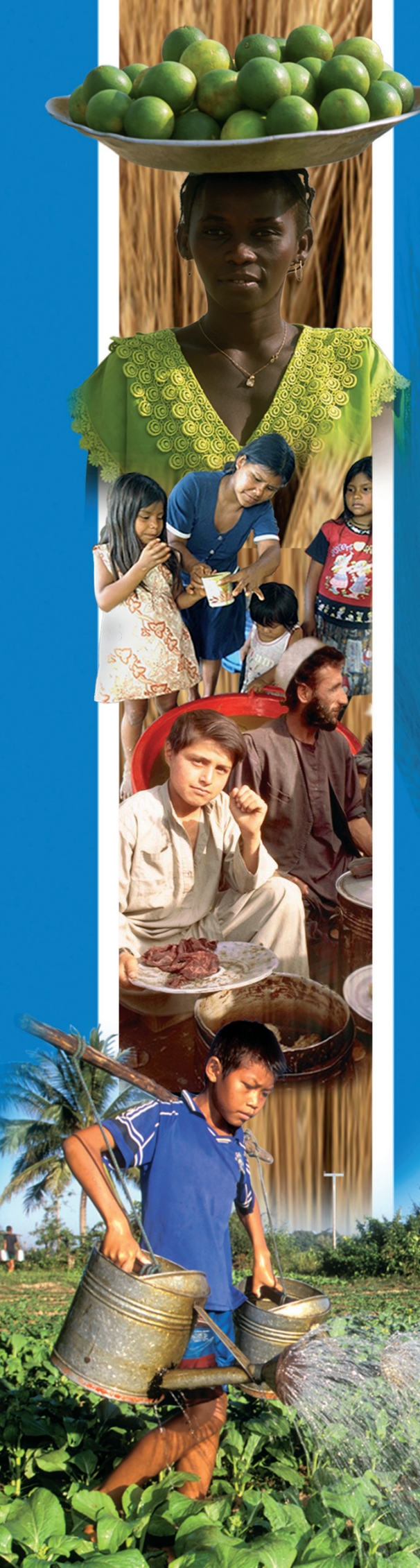
RESOURCE GUIDE



Protecting and promoting good nutrition in crisis and recovery

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Resource guide

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Contents

List of Boxes

List of Tables

List of Figures

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Foreword

Every year, floods, droughts, earthquakes, outbreaks of plant and animal pests and diseases and other natural disasters adversely affect the lives of millions of people in the developing world. In many countries, armed conflicts, natural disasters and other forms of crisis have caused widespread destruction and have forced families to abandon their homes, farms and villages. 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 if refugees and internally displaced persons are to survive until such time as they can return to their homes or establish new ones.

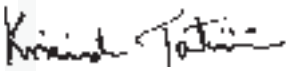
Temporary food distribution and supplementary feeding for vulnerable groups are common humanitarian interventions that are necessary to help people to cope under emergency conditions. However, at the same time, assistance is also often needed to help restore local food production and to reduce the dependency on food aid. Creating the conditions in which households can meet their own basic needs and sustain their nutritional well-being is a fundamental aspect of the recovery process. Through its Emergency Operations and Rehabilitation Division, FAO plays a vital role in the aftermath of natural disasters and conflicts in saving and enhancing rural livelihoods.

The Food and Nutrition Division has prepared this book as a complement to the *Technical Handbook Series on FAO's Emergency Activities*. It offers guidance to programme planners and technicians in the fields of nutrition, food security, agriculture and community and social development in adopting a longer-term perspective to addressing problems of household food insecurity and malnutrition during periods of crisis and recovery. It provides a framework for an implementation strategy that focuses not only on saving lives in the short term, but also on strengthening livelihoods to ensure that households are less vulnerable to food and nutrition insecurity in the future.

Actions and interventions for saving lives and livelihoods need to be designed in a way that helps households to realize their right to food and ensure the nutritional well-being of their members, not only in the short term, but also in the medium to long terms. Making improved nutritional well-being a distinct goal within the context of a broad-based livelihoods approach when dealing with crisis has two advantages. First, it focuses on people and emphasizes the need to strengthen local capacity to protect and promote nutritional well-being. Second, a focus on improved nutritional well-being provides a number of entry points for different sectoral interventions in health, agriculture and community development. Such multisectoral interventions are key to supporting communities' efforts to overcome long-term threats to their livelihoods and nutritional well-being.

The resource material in this book has been drawn from a range of publications, reports and documents related to experiences of crises around the world. As sub-Saharan Africa has had a large share of crises during recent decades, many examples are taken from this region. Nevertheless, the general information, principles and approaches promoted in this book are of universal application.

As experiences in this area are continually evolving, this is a working document for use in different working environments, countries and regions. We would like to encourage users to make comments and suggestions for future editions. It is hoped that the document will stimulate government organizations, United Nations agencies and non-governmental organizations to pilot some of the proposed strategies and approaches, and to provide feedback in the form of case study material and lessons learned. Academic institutions may use the materials for training nutritionists and other technical staff wishing to acquire basic skills in programme planning and implementation in emergency situations.



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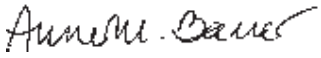

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Acronyms

ACF	Action Contre la Faim
ARI	acute respiratory infection
BMI	body mass index
CBGMP	community-based growth monitoring and promotion
CBO	community-based organization
CBTC	community-based therapeutic care
CGP	community growth promoter
CHW	community health worker
CSB	corn soya blend
DSM	dried skim milk
EWS	early warning system
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning System Network
FFW	food for work
FIVIMS	Food Insecurity and Vulnerability Information and Mapping Systems
FSAU	Food Security Assessment Unit (Somalia)
GIEWS	Global Information and Early Warning System on Food and Agriculture
HEA	household economy approach
HFA	height for age
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
ICRC	International Committee of the Red Cross
IDD	iodine deficiency disease
IDP	internally displaced person
IGAD	Intergovernmental Authority on Development
ITK	indigenous technical knowledge
KAPP	knowledge, attitudes, perceptions and practices
MSF	Médecins sans Frontières
MUAC	middle-upper-arm circumference
NGO	non-governmental organization
OCHA	Office of the Coordinator of Humanitarian Affairs
PRA	participatory rural appraisal
PLA	participatory learning and action
PLWHA	people living with HIV/AIDS
RRA	rapid rural appraisal
SADC	Southern Africa Development Community
SCF	Save the Children Fund
SFP	supplementary feeding programme
SRCS	Somali Red Crescent Society
STD	sexually transmitted disease
SWOT	strengths, weaknesses, opportunities and threats
TB	tuberculosis
TBA	trained birth attendant
TFP	therapeutic feeding programme
UN	United Nations
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
URI	upper respiratory infection
USAID	United States Agency for International Development
VCT	voluntary counselling and testing
WFH	weight-for-height
WFA	weight-for-age
WFP	World Food Programme of the United Nations
WHO	World Health Organization

Introduction

Emergencies and crisis situations encompass a range of different circumstances with various characteristics and differing impacts on household livelihoods and individuals' well-being.

1. Natural disasters, including drought, floods or hurricanes, may develop into emergencies when the capacity to cope fails among particular population groups or at the national level.
2. During conflict, deliberate attacks on civilian populations, their livelihoods and their coping strategies can be an explicit war objective. The impacts of insecurity and the destruction of social, civil and productive infrastructure that result from internal conflict and war interact and are often compounded by natural disasters and chronic disease, leading to complex protracted emergencies.
3. Economic crises brought on by internal mismanagement, terms of trade shocks or volatility in capital flows are a recurrent phenomenon. Responses to economic emergencies, such as fiscal austerity measures that reduce public services or remove food subsidies, often have a heavier impact on the poor than on richer population groups.
4. The increasing prevalence and impact of HIV/AIDS mean that this epidemic is another factor in emergency situations, or an emergency in its own right. Households' resources and coping capacity become depleted by chronic illness or the loss of a key producer. Communities may become overburdened by the need to support HIV/AIDS-affected households. They then become vulnerable to further shocks, and acute crises are likely to re-emerge.
5. Many crisis situations are acutely visible. However, there are also areas where populations live in situations of chronic, physical, political, economic and environmental instability, and where attempts to increase development have failed. These areas are now recognized as being "chronically vulnerable".

Although crisis situations vary widely in terms of type and cause, they also share some common characteristics. For example, food production is often no longer possible, income is reduced, food distribution and marketing networks collapse, and people's homes and belongings are looted, destroyed or burned. Essential services to provide health care and sanitation, education, and law and order break down. Families can be separated; men may be forced to fight while women and children, the elderly and the disabled are often left behind or forced to flee to safe neighbouring countries or areas. The poor are more seriously affected; their coping capacity is more limited than that of better-off households, as they are unlikely to have sufficient assets or savings to see them through bad times. The disruption of normal life can result in rising poverty and vulnerability to food insecurity and malnutrition.

The increase in number and scale of crises and emergencies over the last decade, as well as the long-lasting nature of most complex emergencies, has renewed the debate regarding how to respond to such situations. In the past, emergency response was viewed as a linear sequence of events, starting with early warning and emergency relief and continuing with rehabilitation and development. Interventions were largely restricted to the humanitarian imperative of saving lives. It is now widely accepted that the concepts of relief, rehabilitation and development are closely interrelated and that synergies and linkages among relief, rehabilitation and development activities should be explored when responding to emergencies.

In complex protracted emergencies whose causes are related to both natural disasters and conflict, population groups living in conditions of structural poverty can be exposed to various natural and/or socio-political "shocks". Areas and households may spiral backwards and forwards between periods of acute crisis and relative stability. The impact of and ability to cope with a shock differs, depending on structural factors and the socio-economic, gender and ethnic characteristics of the population. Population sub-groups within an area may therefore have a range of different needs.

It is now realized that hunger and malnutrition are not the only outcomes of crises. The lack of well-nourished and healthy individuals is another constraint on efforts to recover livelihoods and well-being. In addition, acute conditions that require relief aid, and situations of relative calm when developmental interventions are possible may follow each other sequentially or exist simultaneously in the same area or population. Although an immediate humanitarian response is often required, it may also be necessary to implement a range of broader food security response strategies that protect human rights and support livelihoods.

The challenge: Improving nutritional well-being and protecting livelihoods

The current challenge is therefore to respond to the immediate impact of an emergency while, at the same time, ensuring that the livelihoods of affected populations are protected from both the present crisis and future threats. The combined strategy of addressing both immediate and longer-term needs requires a broad approach that views nutritional needs within the perspective of livelihoods. However, improving the economic basis of livelihoods alone (e.g. in terms of assets and other productive means) will not automatically translate into good nutritional and health status. Interventions must aim to strengthen household food security and promote and protect nutritional well-being while reducing dependency on long-term food aid. This calls for appropriate complementary and timely interventions, which need to be implemented flexibly in order to respond to the changing dynamics of a situation.

Identifying solutions and interventions requires a good understanding of how households and individuals attempt to meet their food and other essential needs and how people cope with and recover from stress and shock situations. The impact of emergencies not only on nutritional status, but also on livelihoods generally needs to be better understood, as do the linkages between nutrition and livelihoods. Such understanding will help to identify a series of food aid and other measures that can contribute to creating the conditions for sustained nutritional well-being for affected populations, as well as households' ability to support themselves. Such conditions operate at the individual, household and community levels. They must be underpinned by regional and national political and policy interventions, peace initiatives and the realization of human rights. This will allow people to return to their homes or to resettle/re-establish themselves in areas that are stable and/or protected from conflict, where supportive economic, political and social activities can start again as quickly as possible.

Emphasizing improved nutritional well-being as a distinct goal within the context of a broad-based livelihoods approach has two advantages in times of crisis. First, it focuses on people and emphasizes the strengthening of local capacity to protect nutritional well-being, as well as addressing the immediate effects of malnutrition at the individual level. Second, a focus on improved nutritional well-being allows various entry points for different sectoral interventions in health, agriculture and community development. Such multisectoral interventions are key to supporting communities' efforts to overcome long-term threats to their livelihoods. Thus, a nutrition focus can bring continuity between short- and long-term interventions.

Purpose and structure of the guide

This guide is designed to further the development of a more strategic focus that strengthens programme planners' capacity to protect and promote good nutrition in crisis situations. Its purpose is to establish a common vision and standpoint from which to assess, analyse and improve nutritional well-being in a variety of emergency contexts. It will be relevant and useful to those planners and technicians in the fields of nutrition, food security, agriculture, and community and social development who are able to "cross over" between relief and development modalities of working and who recognize the need to adopt a multisectoral approach to achieving the common goal of improved nutritional well-being.

The guide is structured as follows.

Part I: Issues and concepts for protecting and promoting good nutrition in crisis situations

Part I outlines the relationships between nutrition and sustainable livelihoods and explains why nutritional well-being can be threatened in emergency situations. It shows how a focus on nutritional well-being can provide the foundation for recovery and long-term development by allowing continuity between relief and rehabilitation interventions and by increasing the opportunities for intersectoral collaboration.

Part II: Approaches for protecting and promoting good nutrition in crisis situations

Part II examines possible approaches to protecting and promoting good nutrition. It discusses the advantages of adopting a capacity building approach, while highlighting the need for caution when using participatory methods in the design and implementation of interventions. This part provides guidance on how to develop a capacity building strategy that includes strengthening intersectoral collaboration and policy engagement.

Part III: Household food security and nutrition situation assessment and analysis in crisis situations

Part III discusses the requirements for assessing and analysing households' food security and nutrition situation. Guidelines for carrying out assessments are provided in a range of more detailed technical briefs in Part VI.

Part IV: Planning and targeting household food security and nutrition actions

Part IV examines issues related to the planning and selection of actions in crisis situations that aim to ensure positive and sustainable nutritional outcomes.

Part V: Nutrition actions in crisis situations

Part V presents different types of interventions in areas that range from promoting improved food production and diversification to improving information systems. It provides examples of how the approach presented in this guide can be translated into actions to protect and promote good nutrition.

Part VI: Technical resources and sources for methodologies and practical tools

This guide is a source and reference for a range of existing technical handbooks that cover such topics as assessing malnutrition, managing general and selective feeding programmes and designing specific interventions. A number of technical briefs in Part VI provide more details on some of the subject areas discussed.

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Close-up of cracked earth during drought

Part I

Issues and concepts for protecting and promoting good nutrition in crisis situations

The right to food

The ability to feed oneself and one's family adequately is a human right. The right to adequate food is realized "when every man, woman and child, alone or in community with others, have physical and economic access at all times to adequate food or means for its procurement". This implies the "availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture", and the "accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights".[1]

Violation of this right, as often occurs in situations of conflict and crisis, can lead not only to a loss of dignity, but also to increased vulnerability to food and nutrition insecurity and other abuses. Examples of violation include: blockades of food supplies; destruction of economic and social infrastructure, food crops and stores; appropriation of assets; discriminatory employment practices; and refusal to grant passage for humanitarian assistance.

The 2004 revision of the *Sphere Handbook* (Sphere Project, 2004) provides minimum standards for food security, nutrition and food aid. These are a practical expression of the right to food, and reflect the core content of that right, contributing to its fulfilment around the world.

The right to adequate food is more than the right to be fed. Sovereign States and the international community are obliged to respect, protect and fulfil this right by supporting individuals', households' and communities' capacities and efforts to achieve sustainable food security. This long-term approach is reflected in one of the commitments of the World Food Summit Plan of Action (see Box 1).

Box 1: World Food Summit: Commitment Five

The World Food Summit Plan of Action committed States to:

"…. Endeavour to prevent and be prepared for natural disaster and man-made emergencies and to meet transitory and emergency food requirements in ways that encourage recovery, rehabilitation, development and a capacity to satisfy future needs."

Source: FAO, 1996b.

Realization of the right to food necessitates a shift away from a welfare approach to humanitarian assistance towards an approach that builds understanding of why the right to food is being violated. Such an understanding can lead to the identification of different stakeholders' obligations and responsibilities at different points in a crisis situation, and to awareness of the need to promote accountability of all stakeholders.

[1] General Comment 12, adopted in 1999 by the Committee on Economic, Social and Cultural Rights, the treaty body for the International Covenant on Economic, Social and Cultural Rights.

Linking food and nutritional security to livelihoods

Box 2: Livelihoods

A livelihood "comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living; a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation."

Source: Chambers and Conway, 1992.

A household's assets include:

- the *natural resources* (land, water, wildlife, forests, flora) that it has access to and/or control over;
- *human capacity* in terms of labour power, health and nutritional status, skills and knowledge;
- *social assets*, which reflect the claims or reciprocity among households, neighbours, kin, the community and the State; and
- *economic assets*, which include productive resources and infrastructure (tools, machinery, livestock, buildings, transport), as well as stores (savings, liquid assets stocks, small-stock, jewellery).

Box 3: A case study from Somalia: pastoralist livelihoods

The pastoralist production system in Somalia has developed in a context where the *natural resource base* comprises extensive arid lands. In addition, climatic unreliability and soil type cause spatial and temporal variations in the availability of crucial natural resources, such as browse and pasture. The main *productive asset* is livestock of varying species mix and herd composition. Mobility is the main strategy for managing livestock assets.

Mobility in turn depends on the *social structure*, which is based on a strong territorial clan system that mediates access to grazing resources. Extensive knowledge about environmental management, and livestock husbandry skills are part of the *human capacity resource base*, and are used to make decisions based on multiple choices aimed at achieving a favourable livelihood outcome. The major determinants of these choices are rainfall, range resource conditions and access, animal disease, marketing options and political insecurity.

Source: Adapted from FSAU Somalia. October 2001.

Box 3 describes how pastoralist groups in Somalia combine their various assets, and illustrates how important it is to interpret a household's food security strategies in the context of its overall decisions and strategies aimed at meeting a variety of needs. Food is only one of a range of interrelated needs that influence household decision-making and choice of activities. Households balance competing interests and associated risks in order to subsist in the short and longer terms. For example, people may choose to go hungry to preserve their assets and future livelihoods. Children may be withdrawn from school in order to earn income, herd animals or cultivate the family's fields. Food may be withheld from some family members in favour of others who may be considered more important for the future of the family as a whole. The ways in which a household can manage its assets to achieve positive livelihood outcomes are also influenced by institutional and policy processes at the meso and macro levels.

Risk of exposure to hazards and shocks

Livelihoods involve multiple strategies, and are dynamic in that they respond to external and internal influences. Negative external influences are referred to as "shocks", which are brought about by exposure to different types of hazards. In crisis situations, it is important to identify the potential short- and long-term risks to different livelihood

systems, and to understand how an ensuing shock would affect nutritional well-being. Shocks can be categorized as:

- *environmental*: drought, floods, hurricanes, landslides, pollution, fire;
- *social*: breakdown of State public health and welfare services (e.g. safety net provision), collapse of informal/community/kinship support mechanisms;
- *economic*: unemployment, market failure, price increases, export restrictions, policy changes;
- *political/conflict*: destruction of physical infrastructure and social networks, displacement/seizure of assets, kidnapping, violence and rape;
- *human or animal disease epidemics*: HIV/AIDS, malnutrition, red locust outbreak, and animal diseases such as Rift Valley fever or foot-and-mouth disease.

Box 4 describes the types of shocks that pastoralists in the Gedo region of Somalia faced in 2002.

Box 4: A case study from Somalia: pastoralist livelihoods and shocks

Pastoralists make up 60 percent of the population of the Gedo region of Somalia. In 2002 they experienced a culmination of the following shocks:

- three years of successive poor rains leading to drought conditions;
- local insecurity caused by internal political rivalries and power struggles;
- fragmentation of local administration, and breakdown of social services;
- restrictions on market exchanges because of insecurity related to clan rivalries;
- reduction in market opportunities resulting from the ban on livestock exports to the Gulf States because of fears of Rift Valley fever.

The impact of these shocks led to:

- poor livestock condition and inability to move animals because of weakness and clan boundaries;
- increased conflict over natural resources such as water and pasture, leading to overutilization of surrounding pasture resources;
- ineffective animal disease control measures;
- reduced availability of milk;
- increased prevalence of acute malnutrition;
- increased incidence of communicable diseases such as measles, diarrhoea and upper respiratory tract infections.

The absence of a national government or authority had an impact on the ability of many Somali groups to cope with macroeconomic factors such as border closures, the livestock ban and the privatization of common resources (e.g. water points or "berkads").

Source: Adapted from FSAU Somalia. February 2002.

Vulnerability and coping strategies

In a disaster, all of a population may have been exposed to the same risk, but the vulnerability and resilience of some households and/or specific members of a household to the impact of a shock on their food security will vary.

Box 5: Vulnerability

Vulnerability refers to the full range of factors that place people at risk of becoming food-insecure. The degree of vulnerability of individuals, households or groups of people is determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations.

Source: FAO, 2000.

A household's vulnerability to food insecurity depends on the resource base that it had prior to the crisis and its ability to engage in various coping strategies. Not all types of shocks will affect a household in the same way. Moreover, the impact of a shock will be experienced in various ways depending on the socio-economic status of the household and its individual members. Box 6 describes how the socio-economic status of different types of Somali pastoralist households determined their capacity to respond to a shock.

A coping strategy is a short-term response to such shocks as abnormal declines in access to food. A successful coping strategy is reversible and should not incur unacceptable costs. The relative ability of the poor to cope with shocks and stresses is a measure of their resilience. Poor people are less likely to have savings to fall back on, assets to sell and/or the social claims network or kin to help them to recover. They often lack the resources necessary to take advantage of migrant labour opportunities (which require the payment of intermediaries) or to escape potential conflict zones with their assets and families.

Box 6: A case study from Somalia: pastoralist livelihoods and socio-economic differentiation

"Economic options as well as social rank play key roles in defining the capacity to respond to a shock".

Livestock ownership is the main determinant of prestige and wealth, as well as the main determinant of food security. Not only are livestock sold, but they also provide income, food and raw materials in the form of meat, milk, ghee, hides and skins. Animals play an important role in cementing kin and social relationships through dowry and blood feud payments.

In Gedo, the poorer strata provide herding labour for better-off herd owners. This allows better-off livestock owners to live in towns and split their large herds across different areas, where they are reared by the poorer pastoralists in exchange for milk.

Household economy analysis[2] has found that in a "normal" or "reference" year, poorer pastoralist households are more dependent on purchases derived from income-generating activities such as casual labour or the exploitation of bush and fish resources. Middle or mode pastoralist households, who have larger herds, are able to acquire almost half their food from their livestock. In times of drought, although poorer groups have fewer options, they can more easily adapt to the available alternative sources of income, as they are less constrained by herd-related labour activities.

Links with either urban or international environments also constitute an important asset. The expandability of these options varies from one situation to another. However, as pastoralists become more dependent on the market for food, they are increasingly exposed to the effects of a volatile market. This particularly affects the poor, who have to sell proportionately more of their products on the market in order to obtain enough income, compared with other groups. Such dependency is exacerbated in times of drought, when economic differentiation within a society becomes far more acute.

Source: Adapted from FSAU Somalia, February 2002.

[2] See glossary for a description of the household economy approach (HEA).

The strategies adopted by severely drought-affected populations have been observed to follow a specific order, which starts with reducing the number of meals eaten and increasing the consumption of wild foods. This is followed by labour migration and the sale of larger assets such as livestock, tools, housing and land. Box 7 describes some of the coping strategies used by Somali pastoralists.

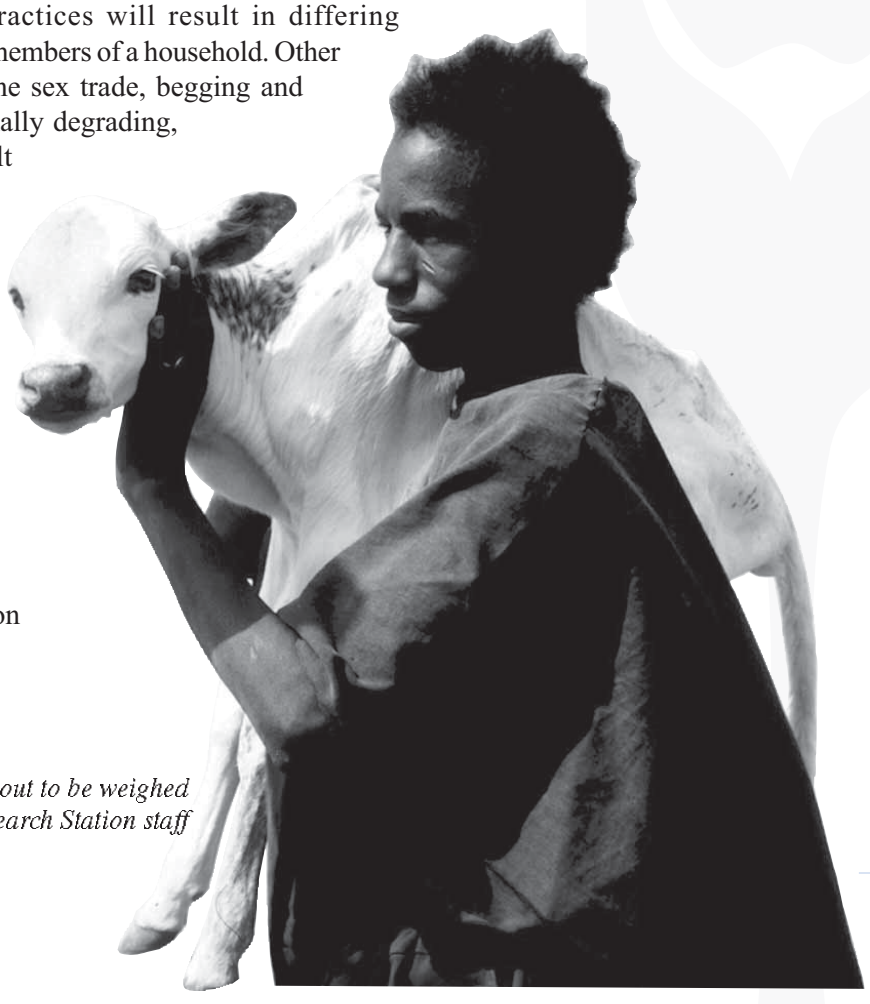
Box 7: A case study from Somalia: pastoralist livelihoods and coping strategies

Herds and flocks remain close to the homestead in the clan areas during the "Gu" or rainy season, when water and pasture are abundant. During the "Jilaal" or dry season, when water and pasture are constraints, households use the strategies of migration and herd splitting to subsist. Fathers and elder sons in the household move to distant ranges with the hardier animals, while mothers and younger children remain at the homestead with young pigs, as well as pregnant and some lactating camels and cattle. In very dry years, this milk herd ("nugul") may also have to move to better pasture areas. This obviously has implications when women and children do not move with the herd and are left behind with no source of milk, or when they do move and lose their access to health and school facilities.

Source: Adapted from FSAU Somalia, February 2002.

Conflict situations reduce the options for coping strategies and increase the vulnerability to food insecurity. Repeated displacement, population concentration, and pressure on natural resources can lead to permanent changes in the local food security system; for example, loss of land may lead people to become casual agricultural labourers, or loss of pastures and herds may result in pastoralists seeking employment in the urban informal sector. These are termed "adaptive strategies" as they cannot easily be reversed. They may be relatively successful or they may contribute to a downward spiral of impoverishment.

The term "coping" may be inaccurate or imply an optimistic viewpoint (one household's coping strategy is another's crisis strategy). Even when coping strategies are effective in preserving vital assets, the costs of coping to those affected are great and can lead to a deterioration in people's health status and to functional impairment. Strategies such as reducing meal frequency, changing meal composition, preferential feeding, and altered caring practices will result in differing nutritional outcomes for various members of a household. Other activities (e.g. involvement in the sex trade, begging and the sale of blood) can be personally degrading, immoral or illegal, and may result in the breakdown of family and community structures. An understanding of the available coping strategies, who is involved, the stage at which strategies are applied, and the consequences and costs involved (in terms of nutritional well-being and livelihoods) is important in analysing the severity of an emergency's impact. Box 8 describes the process of destitution among pastoralists.



A newborn calf about to be weighed by ILCA Research Station staff

Box 8: A case study from Somalia: pastoralist livelihoods and destitution

The following are some of the more extreme coping strategies adopted by Somali pastoralists:

- Shifting to riverine areas and establishing contracts with farmers who have irrigation pumps: under such contracts, the farmers provide water and fodder for animals until the next rainy season, when they receive half the surviving herd, while the remainder returns to the original owners.
- Sharing relief food with animals: "if our animals are healthy, we are healthy".
- Utilizing wild products (e.g. legume from Prosopus trees).
- Using ratoon from failed sorghum crops.

The poorest population groups consist mainly of internally displaced persons (IDPs), the destitute (who have lost their assets during conflict), and very poor pastoralists and agropastoralists who have dropped out of traditional social networks. These very poor groups are viewed as the key agents of environmental degradation, as they collect fuelwood and construction materials and produce charcoal.

Source: Adapted from FSAU Somalia, February 2002.

Household food security

The characteristics and resilience of a household's livelihood strategy are key determinants of its food security status. Food security is concerned primarily with access to nutritionally adequate food at the household level, and is a prerequisite for adequate dietary intake. In the 1970s, the theoretical debate regarding food security focused on food availability or food supply. However, the recognition that some groups of people face food insecurity and famine conditions even where food is available has created an understanding that a household's ability to obtain food is determined by its "exchange entitlements". A household's food entitlements are derived from its own production, income generated in exchange for labour, the gathering of wild foods, community support (claims), assets, transfers (remittances, inheritance), migration, etc. If these entitlements are eroded or collapse, food security is at risk. This highlights the need to understand how households obtain access to food. Figure 6 (on p. 127) provides an example of a livelihoods model that can help to visualize the relationships between different livelihood strategies and their outcomes.

Box 9: Food security

Food security is defined as existing when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life". Food security is defined as existing when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".

Source: FAO, 1996b.

Access to adequate quantities of a wide variety of safe, good-quality nutritious foods by each individual is the core element of the concept of food security. An understanding of how people obtain food and feed themselves on a daily basis is vital for the effective design and implementation of activities and programmes aimed at strengthening people's ability to acquire adequate food supplies. "Access to adequate food" means that families and individuals are able to acquire – through their own production, purchase, bartering, food for work (FFW), gifts, food aid or loans – enough food to provide the right nutritional content and quality. A nutritionally adequate diet contains sufficient energy from staple foods (e.g. cereals, roots and tubers), fat/oil, legumes, adequate amounts of protein (from meat, fish, game, dairy products and legumes), and adequate amounts of micronutrients (vitamins and minerals) from vegetables, fruits, meat and fish. Box 10 shows how the pastoralist production system in northwestern Somalia provides household food security

through the utilization of milk production for own consumption and sale. However, this pattern of food utilization does not provide an adequate and balanced diet for all wealth groups throughout the year.

Box 10: A case study from Somalia: pastoralist livelihoods and household food security

Food utilization among Hawd pastoralists in northwestern Somalia showed the following characteristics:

- The diet is based on cereal and milk.
- Sorghum is usually purchased, but maize is an option (this may depend on the price of sorghum).
- Maize and sorghum are currently selling at the same price.
- Purchased rice is used where possible.
- Purchased wheat flour is used where possible.
- There is limited milling of wholegrain cereals.
- There is limited use of purchased beans.
- Milk intake depends on the availability from own production and on the proportion of production that is sold.
- Own goats are rarely used for meat consumption (sometimes monthly); camels are slaughtered on special occasions.
- Vegetables are rarely or never purchased.
- Some households occasionally eat game meat.
- Wild fruits and leaves are not generally available. One wild fruit was mentioned, and there is some availability of wild gum.
- No fish is consumed, and it is considered a "town food".

Average daily consumption showed that the availability of micronutrients is insufficient for some of the year for middle wealth group households, and for all of the year for poor wealth group households. While energy and protein levels were only adequate or near adequate, fat availability was generally high, owing to milk intake. Camel milk contains larger quantities of iron and vitamins A and C than cow milk does. For the poor wealth group, however, all nutrients apart from fat were low in the dry season. Vitamins A and C are of particular concern for this group, owing both to the limited milk availability during the dry seasons and to the lack of other dietary supplements such as vegetables. Although there is a substantial improvement during the rainy season, the availability of vitamins A and (particularly) C is still low, as this group does not consume sufficient milk to cover all its needs.

Source: Adapted from FSAU and FAO 2002.

Food security also implies *stability and sustainability* of access to food. Stability means that enough food is available on a continuous basis, including when households face a stress such as crop failure, fluctuations in food prices or seasonal changes in cash income or food production. Sustainability means that enough food is available for the long term.

For sustainable food security, the methods used to obtain or prepare food must:

- not lead to environmental degradation;
- not lead to loss of future productive capacity;
- be based on self-reliant means;
- not compromise other requirements, such as shelter, health, housing and education.

The relationship between household food security and nutrition security

Even when a household has access to sufficient food to meet all its dietary needs, not all of its members will always be adequately nourished. Actual nutritional well-being depends on a range of other interrelated factors, which besides food security include health and sanitation, adequate supplies of safe water, adequate methods of food preparation and allocation, and care of vulnerable individuals within the household.

Box 11: Nutrition security

Household food security can lead to good nutritional status when individual household members are nutritionally secure. The condition of nutrition security combines:

- access to nutritionally adequate and safe food;
- sufficient knowledge and skills to acquire, prepare and consume nutritionally adequate diets, including those that meet the special needs of young children;
- access to health services and a healthy environment that ensures the effective biological utilization of the foods consumed.

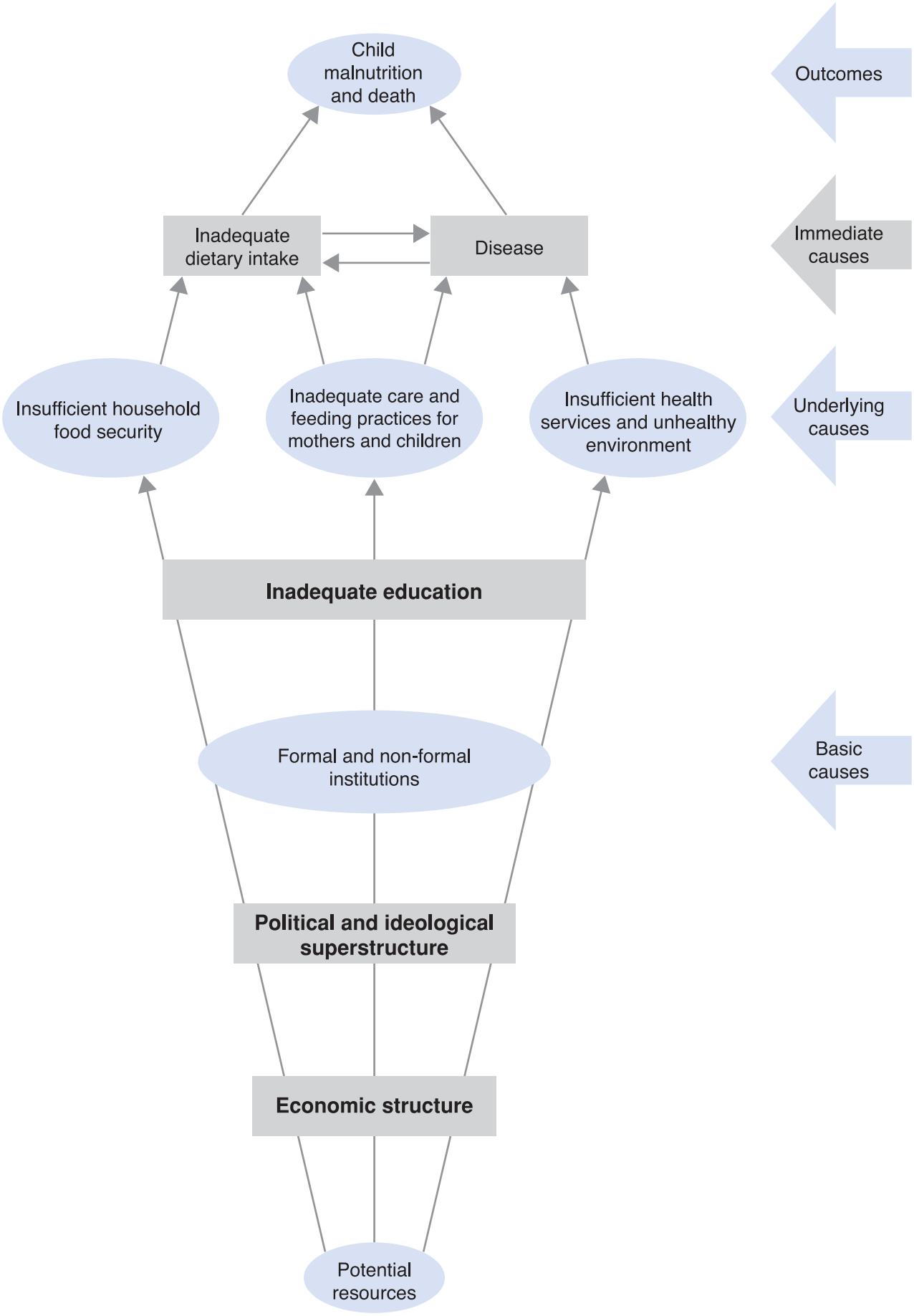
Source: FAO, 1997a.

Appropriate intervention strategies to protect and promote good nutrition must be based on an understanding of the location-specific causes of malnutrition and the relationships between malnutrition and livelihoods. The case study of Somali pastoralist livelihoods illustrates how households combine a range of assets to obtain their livelihoods, and how different shocks can have an impact on both the livelihoods and the dietary status of family members.

FAO/9679/F. Botts

Rural Life. Young Swazi rural couple and baby inside their dwelling

Figure 1: A conceptual model of the causes of malnutrition in emergencies

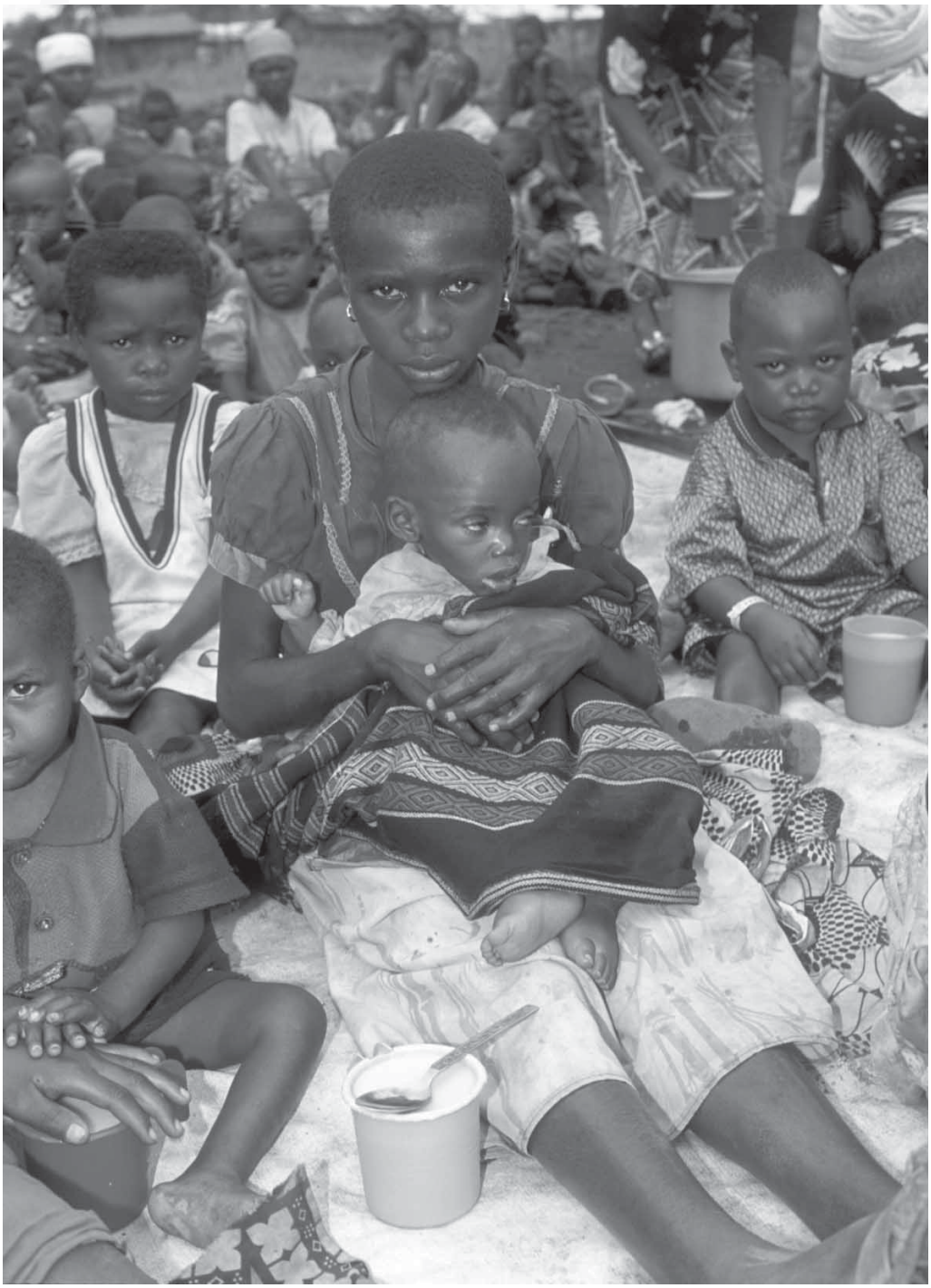


Source: Adapted from UNICEF Framework of Underlying Causes of Malnutrition and Mortality

Figure 1 provides a complementary tool for understanding how the causes of malnutrition operate at the individual, household and community or national levels. The model shows how the immediate causes of malnutrition are the combination and interaction of inadequate dietary intake with infection. Three clusters of interrelated factors influence this interaction: insufficient household food security, inadequate maternal and child care and feeding practices, and insufficient health services and an unhealthy environment. Food security, health and care are all necessary, but each alone is insufficient for improved nutritional well-being.

Threats to food security and adequate dietary intake

For most households in crisis situations, food may be scarce and lack variety. These are the characteristics of a nutritionally inadequate diet. The factors that can influence dietary intake are discussed in the following subsections.



FAO/23437/M. Bleich

Milk distribution at a centre for refugees who lost their homes after a volcanic eruption

Changes in food availability and access

In crisis situations, the availability of and access to food depend on: opportunities for agricultural production; purchasing power and market access; the availability of and access to wild foods; and the foods that are available through general ration distributions. Disasters can lead to the loss or erosion of livelihoods owing to one or a combination of: crop failure, the looting of food stocks, the loss of livestock and draught power, burnt-earth tactics, market failure, and unemployment. Drought or floods may deplete or destroy food stocks. Markets may be inaccessible or undersupplied as a result of military action. Wetland areas, forests and communal land – which are common property resources for pasture, wild plants and foods containing valuable micronutrients – may become inaccessible or unsafe. The loss of livelihoods can mean that food availability and access are reduced, become less diversified or change completely.

Changes in food habits and practices

The physical dislocation caused by an emergency can disrupt food habits and practices. For pastoralist groups, the loss of livestock can mean a sudden change from a milk- to a cereal-based diet. During food relief distributions, new or different forms of foods may be introduced without consideration of their additional processing needs (e.g. conversion of grains into flour), cooking times and fuel requirements (e.g. for legumes and pulses). In addition, it is also necessary to provide advice on preparation and nutrition to explain how new food items can be adapted to existing food habits and practices.

Households may have little access to traditional foods that are suitable for feeding vulnerable groups. In some cases, affected populations or particular sub-groups may be totally dependent on relief rations to meet their food needs. The risk of inadequate dietary intake increases if these rations are inadequate and/or irregular.

The coping strategies of many societies include consuming wild foods, such as fruits, nuts, berries, leaves, roots, grasses, insects and small animals. Although wild resources have important potential as a source of food, inadequate processing and/or consumption of these foods over extended periods may lead to toxicity or illness.

Box 12 provides an example of the role of wild foods in the coping strategies of southern Zambian populations. This area has diverse livelihood systems, which showed different levels of resilience during the 2001/2002 drought. Parts of Southern Province are always chronically vulnerable to food insecurity. In general, livelihood systems were affected to varying degrees by a combination of the following "shocks":

- inconsistent implementation of maize market liberalization policies;
- below normal and erratic rainfall for 2001/2002, which followed a poor 2000/2001 season in some areas;
- the continued impact of corridor disease (East Coast fever) on cattle herds;
- a reduction in the tourist trade owing to Zimbabwe's unstable political situation;
- households with high dependency ratios because of chronic illness (TB, HIV/AIDS) and the care of orphans.

Nutrition surveys implemented in parts of Southern Province in late 2002 found that the acute malnutrition rates for children under five years had remained stable. Although the area had experienced large shortfalls in staple crop production, a range of coping strategies including the use of wild foods helped to protect young children from a deterioration of their nutrition status.

Box 12: Changes in dietary habits as a response to maize production shortfalls in Zambia

Meal patterns

The normal meal pattern includes maize meal porridge/gruel with sugar in the morning, while at midday and in the evening families eat nshima (a stiff porridge made from maize meal) with vegetable relish (rape, cabbage, groundnuts, beans or occasionally chicken) and wild fruits such as mawii (*Strychnos cocculoides*).

When the survey was conducted in October 2002, families with limited maize meal were first reducing the number of meals and the quantity of food prepared (e.g. one meal with nshima usually in the late afternoon or evening). This one daily meal was usually of maize meal gruel, as this stretches the maize meal further. Households with no maize meal used the stored grits/chaff from pounding maize to make porridge or gruel. The chaff is normally stored to be used to make beer or chibwantu. Families with neither maize meal nor chaff made porridge from ground mungongo nuts (*Ricinodendron rautanenii*) and changa (a wild vegetable that is collected and preserved at the beginning of the rainy season). Another alternative was to mash and strain mbula fruit (*Parinari curatellifolia*) and add it to maize meal porridge as a sweetener. In the absence of maize meal, the mbula fruit liquid was eaten alone.

Wild foods that are not consumed in normal years include siboyani, which is a yam-like tuber that is normally consumed by wild pigs. The tuber is peeled and cooked for a long time. Children also dive in lagoons for the potato-like roots of water lilies (*Nymphaea nouchali*). These also require long cooking times. Mayangayanga are onion-like bulbs found in the plains, but elderly women comment: "these are poisonous – they need to be cooked from midday until the evening".

The elders are well aware of which wild foods are toxic. Although the consumption of wild foods is normal, the fact that the total diet of many households is comprised of wild foods, and that reliance on wild foods as the main food source started earlier in 2002, indicates stress. Women also have to rise earlier and earlier in an attempt to be in time to gather fruits dropped from trees over night.

Source: Care International Zambia, 2002.

Changes in food preparation and allocation practices

Household members' nutritional knowledge influences how well scarce food resources are managed. During crisis situations, traditional knowledge of the selection, processing and preparation of foods may no longer be valid. Carers' ability to prepare suitable and safe meals with the foods available therefore depends on their acquisition of new nutritional knowledge. Existing social and cultural attitudes and practices influence how food is allocated within a family, and determine whether working adults or nutritionally vulnerable infants and children are given priority for food.

Food processing and preparation require equipment that may have been left behind or stolen. New foods or forms of foods may require different or additional processing techniques. Certain crops (e.g. bitter varieties of cassava) or wild roots may require time-consuming processing to eliminate toxins. Lack of adequate water storage containers may lead to contamination, poor food hygiene practices and food safety risks. Food may be lost (through insects, rodents, mould, and microbiological and chemical spoilage) because of inadequate storage facilities and/or inappropriate processing and preservation techniques. Foodstuffs must therefore be kept clean, dry and safe from pests, and storage utensils must be available. Food preparation also requires time, as well as access to water and fuel.

Box 13 provides an example from Mozambique of how the impact of war can influence the choice of staple food varieties and processing techniques. The box also highlights that, while research on breeding cassava varieties that are acyanogenic and/or have protein-rich roots may help address this problem, it should be within the context of ensuring a balanced diet and should also consider intra-household food distribution issues.

The Mozambique study found that most of the people affected by Konzo were children over three years, and women. This finding is interesting in the light of more recent research investigating the possible link between low protein intake and cassava poisoning. Intra-household food distribution may put women and young children at a disadvantage when sharing the relish dish that accompanies cassava. If protein intake is more than adequate for both general metabolic requirements and cyanide elimination, toxic effects are lessened or even eliminated, even when cassava is not properly processed.

Box 13: Changes in food preparation practices: Konzo associated with war in Mozambique

Konzo (*Spastic paraparesis*) is a medical condition that affects the central nervous system. It is associated with eating inadequately processed cassava.

In the northern district of Mogincual, agriculture is based on small family holdings with cassava as the main food crop. The normal cassava variety has a two-year cycle between planting and harvesting. Processing normally involves sun-drying for between one and three weeks, followed by storing for use throughout the year. Civil war disrupted agricultural production; people fled, or could not spend as long in their fields. Bitter cassava varieties became more favoured, as they are higher-yielding, have a shorter growing cycle and are less likely to be consumed by monkeys and wild pigs. When people returned to their homes after 1992 they had to harvest cassava earlier than usual. They took short cuts in processing by peeling and pounding the tuber and then sun-drying it for only a few hours. This method does not lower cyanohydrin concentrations adequately. The ensuing Konzo epidemic lasted two years – the last year of the war and the first of peace, with peaks each year during the cassava harvest.

The culprit in cassava toxicity: cyanogens or low protein?

Proteins contribute to the elimination of certain dietary toxins. With the help of the enzyme rhodanese, the human body detoxifies cyanide by forming thiocyanate. When the body is regularly exposed to cassava cyanogens, the increased synthesis of rhodanese makes extra demands on its reserves of amino acids, the building blocks of proteins. To detoxify 1.0 mg of hydrocyanic acid (HCN) the body needs a daily supply of about 1.2 mg of dietary sulphur (S) from S-containing amino acids (SAA). If the demand for rhodanese and SAA is prolonged, as in the regular consumption of cassava, and the diet is inadequate, the synthesis of many proteins vital for bodily functions may be impaired, leading to the development of protein deficiency diseases. Whenever a chronic disease has been linked to cassava consumption, the victims have also been found to suffer from protein deficiency, suggesting that there is a relationship between the two.

Sources: Summary of published paper in Cliff *et al.*, 1998; and Padmaja, 1996.

Threats to adequate maternal and child care feeding practices

The transformation of food into a safe, culturally acceptable, nutritionally balanced diet requires a number of practices and resources that may be jeopardized in crisis situations. Adequate care for mothers and children at the household and community levels is necessary to promote survival, growth and development. Such care includes activities related to food preparation, breastfeeding and complementary infant feeding practices, hygiene practices, care for women, psycho-social care and home health practices. The resources needed include food, knowledge, income, time, and supportive attitudes and relationships.

Changes in breastfeeding and complementary feeding practices

In crisis situations, existing positive breastfeeding practices may be threatened by maternal malnutrition, anxiety and trauma, increased availability of breastmilk substitutes, and lack of counselling and support for HIV-positive women.

Box 14 highlights some of the issues regarding infant feeding in emergency situations, where there are few or no established practices for dealing with them. The pervasive belief that infant formula milk is required, and the lack of data about local feeding practices, together with inadequately trained field staff and a lack of clear guidelines for infant feeding, create a situation in which it is difficult to implement a workable compromise between accepted best practice and the options that are available.

The following are some of the common problems regarding infant feeding:

- Infant formula feeds are distributed when they are available, and the form available may not necessarily be the most appropriate for the situation. Issues such as avoiding the distribution of brand-labelled products are either not understood or felt to be irrelevant when these are the only products that are on offer.
- Supplies are often provided without instructions, with instructions in only the language of the country of origin or with badly translated instructions.
- Supplies are distributed in incorrect quantities, to incorrect age groups and to mothers who do not have the necessary information or are not in the right environment to use the products safely.

Box 14: Infant feeding in emergencies: experience from former Yugoslavia

The belief that stress prevents a mother from breastfeeding was innate and reinforced by families and health professionals. Local medical staff stated that 70 percent of women could not breastfeed, and that infants were dying because no infant formula milk was available. The humanitarian community at all levels responded to these expressed needs by sending infant formula and weaning foods. Discussion and internal reflection highlighted the following issues:

- *Bottle-feeding culture*: Former Yugoslavia was known to have a predominantly bottle- feeding culture. Furthermore, wet nursing is not practised. Sound data on infant feeding practices had been lost or were unavailable. Security and staffing issues made it impossible to collect new data to assess the real extent of the problem. The benefits of breastmilk and breastfeeding were not sufficiently understood and were undervalued, so field workers and other health staff did not make the additional efforts required to promote breastfeeding.
- *Training*: Many aid workers lacked experience or technical training in emergency work, or knowledge of appropriate maternal and child care practices. As in many other European countries, health worker training in Yugoslavia did not focus on the benefits of breastmilk and ways of supporting mothers who wish to breastfeed. Training usually promoted the practice of "topping up" with breastmilk substitutes or the idea that it is good or even better for a baby to be bottle-fed.
- *Choice*: Most aid workers believe strongly in a woman's right to decide how to feed her child. They do not always realize that informed choices are difficult to achieve in normal circumstances, while obtaining information and support for mothers during a war may be virtually impossible.

Field staff in former Yugoslavia acted in the ways that they felt were best to meet the needs of mothers and infants during the war. Even where there is knowledge or experience, a field worker faced with a hungry infant and a distressed mother does not have sufficient time to give individual breastfeeding counselling and ongoing support.

Source: Adapted from Walshe.

One compromise would be to give infant formula with preparation instructions in the local language, and no brand name on the label in order to avoid providing free advertising for formula companies. This does not always happen in practice. It is sometimes recommended that no infant formula should be provided. However, there is insufficient evidence to show that this approach encourages mothers to return to or initiate breastfeeding. Guidelines on infant feeding in emergencies have been developed since the former Yugoslavia experience.

Infants from the age of six months onwards may face increased risks of growth faltering when semi-solid foods are first introduced into their diets. In crisis situations, the resources needed to manage this period may not be available or may be extremely limited. These resources include: a variety of suitable foods (energy-and nutrient-dense and soft) that can be fed four to six times a day; clean food, utensils and environment, in order to avoid infection; and time and affection from the mother and other family members, to contribute to psycho-social development. When these resources are not available, mothers may provide breastfeeding only to nourish their infants, thereby increasing the risk of malnutrition.

Disruptions to child care and feeding practices

Sick, anorexic or traumatized children often lose their appetites, and need to be encouraged to eat, which in turn requires time, patience and food variety. In situations of displacement and disruption, mothers may have to spend long hours queuing for food assistance, so they have relatively less time for selecting and preparing nutritious meals and responding to children's emotional needs. In crisis situations, the capacity to supervise infants and children may be affected by the division of families and the breakdown of kinship ties. There may be fears that warring factions will kidnap adolescent boys and girls.

Changed psycho-social context

Psychological health care includes stimulation and support for the intellectual development of young children, and the treatment of post-traumatic disorders. Family and cultural caring practices may be affected during crises. This may be especially relevant in emergencies where traumatic experiences have led to withdrawal, depression, anxiety and despair, which have a profound effect on appetite and the care of self and others. There may also be severe constraints on other caring behaviours, such as: the poor health and psychological state of mothers and other family members; the absence of key family members; the break-up of families; and changes in autonomy and control of resources. Social support networks and the normal mechanisms and channels for inter-generational transfer of knowledge and skills may have been broken through the prolonged separation of immediate family members and the severance of extended kinship ties. This can lead to inadequate knowledge of breastfeeding and complementary feeding practices, and to anorexia in young children. In some cultures, individual and/or family privacy and practices of seclusion are important for the family's physical and psychological well-being. Women and young girls may often find themselves in circumstances where they are subjected to sexual violence.

Changes and challenges to women's roles, status and rights

Care is usually the responsibility of adult females, mainly mothers, and the ability to give adequate care is frequently affected by women's multiple responsibilities and heavy workloads. Men's culturally and socially defined roles often limit their ability and readiness to undertake domestic duties, child care and food processing and preparation. This situation may be exacerbated in complex emergencies, as up to 80 percent of displaced persons and refugees are women and children. This leads to a dramatic increase in the number of women heads of households with responsibility for meeting the needs of both children and ageing relatives.

The health care of women can also be compromised through inadequate gynaecological, paediatric and counselling services. This lack affects women's ability to care for themselves and their dependants. Social and cultural patterns of subordination determine women's access to resources and decision-making bodies, and in crisis situations these patterns are likely to be accentuated. Many culturally defined coping strategies involve reduced food consumption to protect livelihood assets. These may be household decisions, where the local cultural perspective gives lower importance to good nutrition outcomes.

However, the cultural perspective should also be seen within the context of power and gender relations, where lower-status household members (women, adolescent boys) are often the most affected by coping strategies.

Threats to adequate health, water, sanitation and shelter provision

In crisis situations, the health infrastructure (buildings, staff, medical supplies and equipment) may have collapsed or been destroyed through lack of investment, floods, hurricanes, etc. or the intentional strategies of warring factions. Water points may become polluted (e.g. by dead animals) or deliberately poisoned. Caring practices with respect to health and sanitation may be compromised through:

- inadequate provision or access to materials for personal hygiene (water, soap and bathing shelters);
- overcrowding (especially in urban contexts);
- poor organization of cleaning and rubbish disposal around living areas;
- lack of culturally acceptable human waste disposal (e.g. use of latrines);
- inadequate preventive and curative medical services.

The health problems that can increase as a result of inadequate hygienic practices include scabies, conjunctivitis, intestinal parasites, diarrhoea and acute respiratory infections (ARIs). Nutritional requirements may increase in cold weather, unless adequate shelter is provided.

Infection and ill health

The underlying diseases in crisis situations are the same as those at other times: diarrhoeal diseases (malaria), measles, intestinal parasites, ARIs, TB, and sexually transmitted diseases (STDs). These diseases are likely to follow seasonal patterns and vary with altitude. The relationship between malnutrition and morbidity may vary according to the context. Increased wasting is not always associated with increased mortality when public health conditions remain the same. However, the same level of wasting may be associated with raised mortality rates if the sanitary environment has deteriorated and access to health services been reduced. Increased mortality in an emergency is often associated with a health crisis such as a measles or cholera epidemic. Exposure to and transmission of disease increase as a result of displacement, overcrowding, pressure on water, poor sanitation and health provision, and the erosion of normal coping strategies (e.g. access to traditional wisdom, herbal medicines, etc.) The risk of HIV infection rises in emergency situations, when populations are on the move and social and political systems break down.

Interactions between inadequate dietary intake and infection

In many emergencies, affected population groups may already have been chronically food-insecure and/or in poor nutritional condition before the onset of the emergency: displaced populations may experience extended periods of hunger during their flight from conflict zones; and humanitarian interventions may be delayed because of isolation or physical access problems. A crisis situation may threaten adequate dietary intake, and people's requirements for water, sanitation and health may often be seriously compromised.

Malnutrition and infection

The simultaneous presence of malnutrition and infection results in an interaction that increases the impact of either state existing alone. Dietary deficiency diseases may reduce the body's resistance to infections and adversely affect the immune system so that the

body has reduced ability to defend itself against infections. Some dietary deficiency diseases, such as vitamin C and vitamin A deficiencies, cause changes and damage to the skin and mucous membranes, thereby decreasing resistance to invasion by pathogenic organisms.

Infection, in turn, affects nutritional status. It causes increased breakdown of tissue protein and mobilization of amino acids, especially from the muscles. Recovery depends on an increased intake of protein in the post-infection period. When accompanied by fever, infections often lead to loss of appetite, and therefore reduced intake. Parasitic infections can have an adverse effect on nutritional status through the loss of iron. Diarrhoea is an important factor in precipitating malnutrition, and is particularly common in children of weaning age. When complicated by dehydration, diarrhoea can be fatal. Other diseases, such as xeropthalmia (caused by vitamin A deficiency), can be precipitated by diarrhoea, which causes depletion of retinal stores. Common childhood diseases such as measles have a higher fatality rate in poor environments, where the children who develop them are more likely to have poor nutritional status, lowered resistance and poor health.

HIV/AIDS also accelerates the vicious cycle of inadequate dietary intake and disease that leads to malnutrition. As a result of their altered metabolisms, HIV-infected individuals have higher nutritional requirements for energy than uninfected individuals do. During the asymptomatic phase, energy requirements increase by 10 percent for adults and adolescents. During the symptomatic phase, energy requirements increase by 20 to 30 percent. (WHO, 2003). Adequate intakes of such micronutrients as vitamins B, E and C, vitamin A and selenium are important for preserving immune function. HIV/AIDS-infected individuals may find it difficult to meet adequate nutritional requirements owing to loss of appetite and anorexia (which lead to reduced intake), and diarrhoea and malabsorption (which reduce the physiological utilization of nutrients). This leads to the weight loss that is characteristic of people with AIDS. The onset of AIDS – and even death – can be delayed in well-nourished HIV-positive individuals, and energy- and micronutrient-rich diets help to develop resistance to AIDS-related opportunistic infections in patients.

Malnutrition

The loss of livelihoods, together with the disruption of social and cultural norms, has a negative impact on the availability of, access to and utilization of food. This can lead to increased levels of malnutrition, which is manifested as macronutrient (protein, energy) and/or micronutrient deficiencies. In the case study described in Box 15, the culmination of various shocks on the livelihoods of Somali pastoralists led to a severe deterioration in the well-being of families.

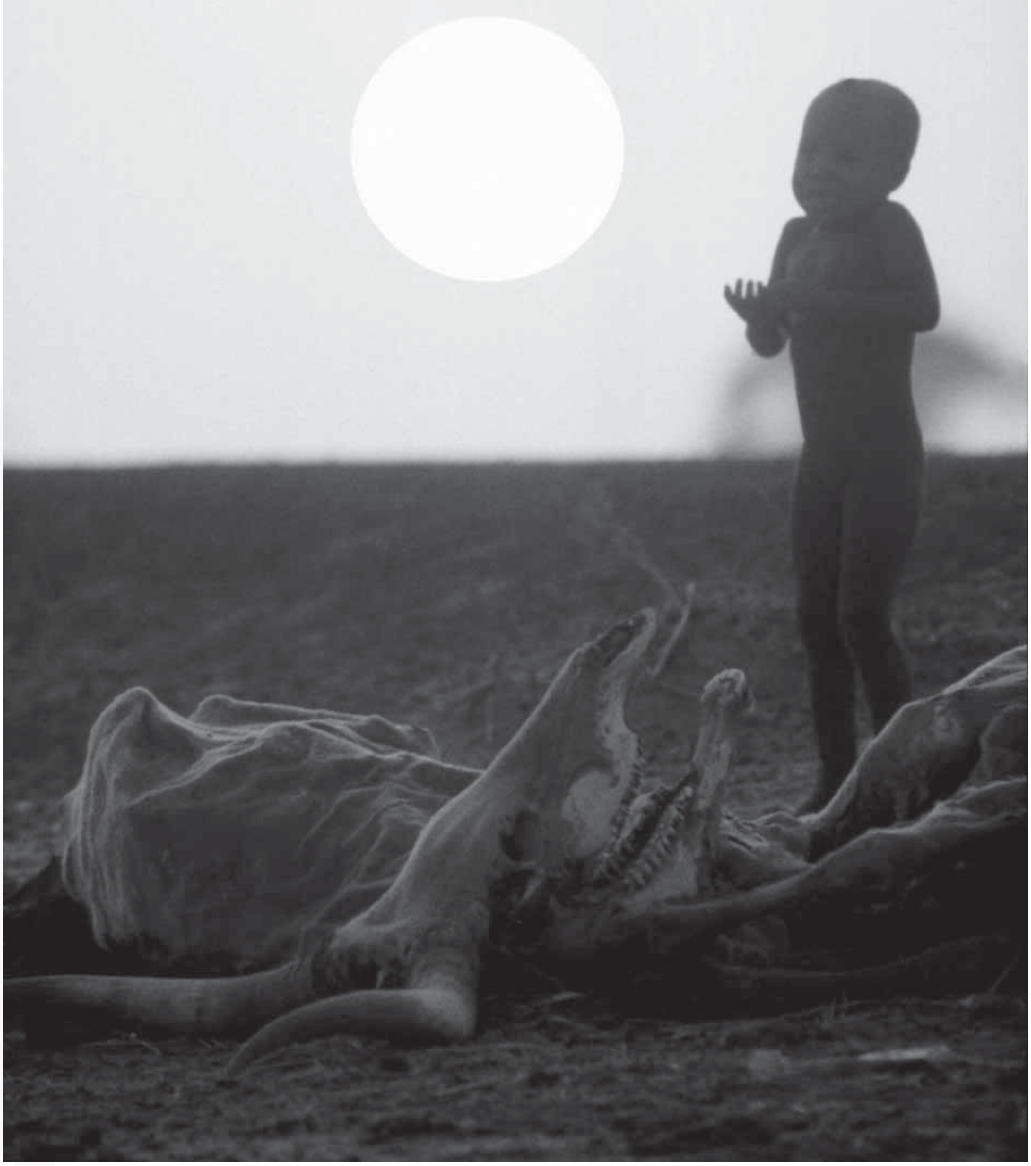
Box 15: A case study from Somalia: pastoralist livelihoods and malnutrition

In December 2001, a nutrition survey was carried out in Belet Hawa district of Gedo region, southern Somalia. Global acute malnutrition (< -2 Z-score weight for height [WFH]) was found to be 37 percent, with severe acute malnutrition (< -3 Z-score WFH) of 8 percent. The various shocks to livelihoods had culminated in a precarious food security situation. The impact on family well-being was exacerbated by fragile water systems, weakened health services, low immunization coverage and a high incidence of communicable diseases such as measles, diarrhoea and upper respiratory infection (URI). The situation was of continuing volatile civil insecurity together with interruptions to the food aid pipeline.

The FSAU Nutrition Update noted:

"Every year we wait until the human suffering indicator – malnutrition – confirms the food insecurity information. When we are convinced that a problem exists, we reluctantly recommend food aid along with the wise words 'food aid is not the answer'. But where are the interventions that aim at reducing the ever-increasing vulnerability of the people of Somalia? Unfortunately there are very few."

Source: Adapted from FSAU Nutrition Update, December 2001.



FAO/11233/Y. Muller

A child stands beside carcasses of cattle destroyed by drought near the village of Ross-Bethio

Protein–energy malnutrition occurs when individuals lack sufficient quantities of food to meet their energy and protein needs. The main sources of energy are cereals, roots and tubers, oils and fats. Important sources of the protein needed to supplement that provided by cereals include pulses, legumes, and animal and dairy products. For infants and young children, in particular, inadequate dietary intakes of these foods can lead to acute malnutrition or wasting (low weight for height). Eventually, after months or years of inadequate diet, children will fail to grow normally, and become stunted (i.e. shorter and smaller than well-fed children of the same age) or chronically malnourished. Underweight children are more susceptible to infections, and may develop severe acute or chronic malnutrition. This may take different clinical forms ranging from marasmus to kwashiorkor and combinations of the two. Signs of marasmus include extremely thin legs and arms, a sunken "old person's face", a distended abdomen, and a tendency to feel miserable and cry a lot. Moderate to severe malnutrition (below -2 standard deviations of the World Health Organization/National Center for Health Statistics [WHO/NCHS] reference median weight for height) is one of the main causes of high rates of childhood illness and death. The signs of kwashiorkor in children include swollen legs, arms and face (because of oedema, or fluid in the tissues), a "moon face" (the skin is pale and thin and may peel) and hair that is pale and straighter than normal. These children may also be very unhappy or apathetic. Some children show symptoms of marasmus and kwashiorkor at the same time (i.e. they are extremely thin but may also have oedema of the legs, arms and face). Unless they receive therapeutic feeding and medical treatment, children with severe malnutrition are likely to die. Adults affected by malnutrition have

a low body mass index (BMI) or nutritional oedema.

Micronutrient deficiencies

In crisis situations, a reduction in the diversity and quality of the food supply, together with the need to alter customary cooking practices, can bring about different food consumption habits and practices. This may have an impact on the availability and bio-utilization of micronutrients. The most common micronutrient deficiencies include vitamin A deficiency, iron deficiency anaemia, and iodine deficiency diseases (IDDs). Scurvy resulting from vitamin C deficiency, pellagra due to niacin deficiency, Beriberi due to thiamine deficiency and riboflavin deficiency are also observed under certain conditions.

Vitamin A deficiency is one of the most serious childhood nutritional diseases and is often associated with protein–energy malnutrition. Vitamin A plays an essential role in vision and eye health, and is recognized as a critical factor in child health and survival. It is the main cause of irreversible childhood blindness.[3] Vitamin A deficiency leads to lower immunity, and therefore increased rates of illness and death. Measles, diarrhoea and other diseases – which commonly occur in emergencies as a result of overcrowding and poor sanitation – are more severe and may become life-threatening among vitamin A-deficient children. Vitamin A-rich foods include dairy products, oily fish, and dark-green and orange fruits and vegetables. Fats and oils help the absorption of vitamin A, and are thus necessary to ensure that large amounts of the vitamin are absorbed. In crisis situations, these foods may be in short supply, out of season, unavailable or too expensive.

Iron deficiency anaemia adversely affects: the cognitive performance, behaviour and physical growth of infants, pre-school and school-age children; the immune status and resistance to infections (of all age groups); and the use of energy sources by muscles, and thus the physical capacity and work performance of adolescents and adults. Specifically, iron deficiency anaemia during pregnancy increases peri-natal risks for mothers and neonates, and increases overall infant mortality. Iron deficiency anaemia is widespread and a major public health problem, even in normal situations. Every age group is vulnerable. However, the high-risk groups for anaemia are women (especially during pregnancy and soon after delivery), babies, young children and adolescents (especially girls). The main sources of dietary iron include:

- animal products, such as meat, poultry, liver (which is particularly rich) and fish;
- pulses (legumes), such as groundnuts and cowpeas;
- some green leafy vegetables.

Folate deficiency may also cause anaemia, as well as other disorders such as increased susceptibility to infections, low birth weight, foetal malformations, delayed growth in early childhood and adolescence, delayed sexual development, and increased risk of heart disease. Folic acid is present in all foods of plant and animal origin, particularly liver, leafy vegetables, fruit, pulses and yeast.

Iodine deficiency results in a variety of disorders including goitre (thyroid enlargement), impaired learning ability and reduced mental function (cretinism) and reproductive complications (still births, abortions and infant deaths). Iodine deficiency occurs mostly in mountainous areas and where soils have low iodine content. Iodated salt is often used as a strategy for the control of IDDs, but iodated salt may not be easily accessible in crisis situations.

Vitamin C deficiency causes scurvy, decreased resistance to infections and poor healing. Vitamin C increases the absorption of iron, so it is advisable to consume iron-containing

[3] Vitamin A is a key precursor in the biosynthesis of rhodopsin, which is required by the retinal photoreceptors responsible for vision under low levels of illumination.

foods with foods that are rich in vitamin C (e.g. guavas, citrus fruit, papaya, mango and some green vegetables) in the same meal.

Niacin deficiency (pellagra) occurs in people with very poor diets that consist mostly of maize, for example refugees and prisoners (e.g. Mozambican refugees in Malawi). Women, old people and children are particularly at risk. Men may get enough niacin from drinking beer. Pellagra results in skin problems, and some people have severe diarrhoea or mental changes. Groundnuts are a good source of niacin, and maize and sorghum flour can be fortified with niacin.

Niacin, riboflavin and thiamine usually occur together in foods, but in different proportions depending on the food source.

Riboflavin deficiency results in lesions around the mouth, dermatitis and red eyes and lips. Good sources of riboflavin include liver, milk, eggs and whole grains.

Thiamine deficiency (Beriberi) can occur when a population's diet consists of predominantly polished white rice, with no thiamine-rich sources such as nuts, beans, wholegrains and yeast-based products (e.g. beer).

Zinc deficiency results in delayed growth and decreased resistance to infections; the richest sources of bio-available zinc are meat products. Diets based on wholegrain cereals may be zinc-deficient, not only because of low zinc intake, but also because phytates in cereals inhibit zinc absorption from the gut.

The consequences of malnutrition

The short-term implications of malnutrition include weight loss and growth faltering. In children, undernutrition impairs learning ability and school performance. Long-term chronic malnutrition, or stunting, is associated with impaired mental development. Stunting has intergenerational implications. Stunted girls who reach motherhood are more likely to give birth to low-birth-weight babies (< 2.5 kg.), who in turn are more at risk of becoming malnourished.

For adults in general, malnutrition, anaemia and iodine deficiency lead to poor health, impaired physical and mental performance, and lower productivity. This increases vulnerability to future food insecurity through reduced physical capacity and work productivity. This combination of factors contributes to the perpetuation of poverty.

Undernutrition makes people more susceptible to illness and disease. Morbidity and mortality risks increase in situations of overcrowding, where there is inadequate environmental health and sanitation. The condition of stunted children can worsen rapidly at the onset of complications such as diarrhoea, respiratory infections and measles, and can lead to increased rates of death. High rates of illness reduce work time, both directly and indirectly, owing to the need to care for family members who are ill.

All these consequences increase the demands on medical, public health and food assistance in crisis situations. The consequences of poor nutrition for human well-being are a constraint to recovery and development in the medium to long terms.

Nutritional well-being: The foundation for recovery and long-term development

Short-term behavioural responses to energy stress and the impact of malnutrition on mental development can be compounded by the psychological traumas experienced in

conflict situations. Following war, many people feel shock, guilt, suspicion and hatred as the victims and/or perpetrators of violence. The fear of violence, particularly against women, may continue. There may be high emotions and expectations, with people wishing to rebuild quickly, revert to traditional roles and put immediate events behind them. Disillusionment and a feeling of powerlessness can occur when a reversion to normality does not happen as quickly as anticipated, or when traditional roles are no longer relevant.

People need to be physically and psychologically strong before they can look beyond day-to-day survival and plan for the longer term. As described in the previous section, poor nutrition compromises people's ability to use opportunities to rebuild their livelihoods. A person with poor nutritional status cannot work as hard; low productivity means low income, and so a person's ability to make a living and obtain food for the family is less than it would be with good nutritional status. Poverty is perpetuated by the physical and mental deficits caused by malnutrition.

In situations that oscillate between crisis and stability, people are less able to restore their productive capacities and rebuild their lives. Where malnutrition is widespread, family, community and national recovery and development are severely constrained.

In order for malnutrition to be reduced sustainably, actions and interventions are needed that address the contributory causes. Strategies and actions directed at satisfying immediate needs at the individual level (e.g. nutritional rehabilitation through intensive care and therapeutic feeding) should be matched by actions at the household and community levels. Strategies should be designed in a way that assists households to realize their rights to food and to ensure the nutritional well-being of their members, not only in the short term but also in the medium to long term. The underlying causes of shortfalls in realizing the right to food may need to be addressed through the clear identification of right bearers and duty bearers for a range of interdependent rights. Such rights may include the right to exist (e.g. for marginalized and persecuted groups), the right to utilize natural resources, and the rights to employment, education, health, water, shelter and food.

A rights-based approach to improving food security and nutrition can only be successful if it pays attention to both the outcome and the process. Integrated multidisciplinary approaches are often more effective than single-sectoral activities in reinforcing household food security, improving overall nutritional status and increasing family income, especially among disadvantaged families and communities. Key to this is strengthening civil society organizations' capacity to increase awareness and contribute to the debate about existing cultural and contextual duties and rights to food. The organizations can then develop mechanisms that allow them to advocate on their own behalf. Networking and partnerships among government institutions, multilateral agencies and non-governmental organizations (NGOs) can be used to create an environment in which the right to food can be fulfilled at different stages in a crisis, and to ensure accountability at different levels.

A focus on food and nutrition security in crisis situations has two important advantages:

- It acts as an entry point for different sectors to address the multi-causal nature of malnutrition, thereby bringing together contributions from nutrition, health, education, agriculture, trade and transport in a complementary manner.
- It can provide a coherent focus that ensures continuity when flexible combinations of short- and long-term interventions are required.

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Part II

Approaches for protecting and promoting good nutrition in crisis situations

Part I showed how shocks to livelihoods affect the nutrition security of households in different ways, depending on the type of threat and the household's capacity to deal with it. The links and mutual dependence between nutrition security and livelihoods provide the framework for an implementation strategy that not only focuses on saving lives in the short term, but also strengthens livelihoods to ensure that households are less vulnerable to food insecurity in the future. Adopting this approach reduces the dependency effects of relief aid. It requires efforts that look beyond the immediate relief needs of disaster-affected populations towards options for greater self-reliance. This strategy is underpinned by three elements:

- greater emphasis on capacity building at various levels;
- increased participation by affected population groups;
- increased intersectoral collaboration, coordination and policy engagement.

Capacity building in crisis situations

Capacity building is designed to reinforce or create the strengths on which communities can draw to offset current and future vulnerability. Capacity building starts off by identifying and building on local coping strategies, resources, resourcefulness and capacity to organize mutual support to deal with crises. Almost all individuals and population groups in emergency situations have been traumatized, self-confidence has been undermined, and normal methods or channels of knowledge transfer have been disrupted. Capacity building is required to respond to the needs for:

- technical skills and training;
- psycho-social skills to deal with bereavement and trauma;
- the socio-political skills needed for social reorganization, decision-making, conflict resolution, peace building and human rights observance.

Is capacity building appropriate in crisis situations?

Efforts to give capacity building more emphasis in relief and rehabilitation situations are often dismissed as being inappropriate for unstable environments, or only suitable as a development activity and not an emergency one. Capacity building initiatives are also seen as a threat to political neutrality in sensitive conflict situations. However, if existing strengths are overlooked or ignored and capacity building is not included among the required responses, there is more danger of duplicating and detracting from local efforts by setting up unsustainable parallel systems for service provision. External relief agencies will also encounter great difficulties in defining and implementing a transition or exit strategy when immediate relief needs have been met. Capacity building is an investment in the future and is of value in the long term, after a situation has been stabilized and displaced populations have returned home.

Capacity building at the local level is essential in order to protect existing positive coping strategies (e.g. breastfeeding practices, food sharing mechanisms, savings clubs) and promote the strengthening and diversification of livelihood activities that contribute towards nutritional well-being. In some situations, crises can act as a catalyst for more rapid social transformation in areas such as gender relations and human rights. However, changes can have both positive and negative impacts, and capacity building initiatives

should at the very least "do no harm". In very unstable situations, external inputs may not reach the affected population groups, and increased organizational and technical skills for local people are likely to be of as great a benefit as any of the physical inputs provided.

How can capacity building be achieved?

A key strategy for strengthening capacity at the local level is the creation or reinforcement of those local-level groups that are already helping to reduce vulnerability in an emergency, or that have the potential to do so. Examples of such groups include faith-based groups, sports associations, neighbourhood groupings, women's groups, care and support groups for the vulnerable (children, people affected by HIV/AIDS, disabled people, orphans), farmers' cooperatives, savings and credit groups, water users' associations, and groups that cultivate gardens. It is important to identify how individuals relate to each other, and how people relate to institutions. This will help in assessing whether and how existing local structures and processes can contribute towards capacity building.

At the national level, actions that support and reinforce local-level efforts include the training of national and government staff in needs assessment and household food security and nutrition data analysis. Policy-makers need to be guided on how to use the information so that they can address nutritional constraints through appropriate policies, which are incorporated into national reconstruction planning. Efforts to increase preparedness for future disasters could include training people in the technical or management/ administrative skills that are necessary in an emergency. This is especially important if many educated people have already left the country or been killed. Refugees who have returned to their homes may be a valuable resource, as they will have acquired skills during their time away.

Capacity building also requires the strengthening of intersectoral coordination and collaboration. In situations where State structures are weak or non-existent, capacity building has to help reduce institutional vulnerability. An intersectoral coordination mechanism for food security activities can also play an important role in addressing institutional vulnerability.

Developing a capacity building strategy

The objective of a capacity building strategy is to address the priority issues for training in order to:

- enable communities and local institutions to become actively involved in assessing, designing, planning and implementing interventions aimed at protecting and promoting good nutrition;
- enable reinforcing and complementary interventions at different levels – individual, household, community, national – and across different sectors.

The strategy should identify priority training needs. It should define: who will be trained at different levels (community, local, national), what training will be provided, the training delivery mechanisms, and the resources and budgets needed, as well as how these will be sourced. The strategy should provide a framework for capacity building activities that interlock both vertically (at different levels) and horizontally (across different sectors). The design of the strategy should be based on the findings of an institutional analysis and a food and nutrition situation analysis.

Identifying institutional capacity and requirements

Institutional analysis will identify those formal and informal institutions that are involved in nutrition and household food security activities. The local population should be asked

to describe which institutions are most important to them, and why. Box 16 provides an example of the network of institutional relationships in Angola.

Box 16: Institutional analysis in Angola

"The way institutions are implanted in the new place and the attention they give to displaced people influence the process of adaptation to the living and working conditions in the new environment. Displaced people face problems satisfying their basic needs: lack of water, food, and clothing; access to health services…". "Frequently, local initiatives by communities to resolve these problems conflict with the State's institutional culture. A range of different organizations take the central roles in these: so-called 'commissions' normally formed on the initiative of NGOs; various interest groups; churches; more rarely (and only in some places) the private sector; and institutions linked to 'traditional' leadership."

"For the interviewees, the nearest figure of authority is their head of family – normally their father or oldest brother. Next comes the 'soba' (traditional leader). The State is in the last place. Most displaced people struggle to understand what the different institutions stand for, and how they are interrelated. The State institutions themselves have difficulty in clearly defining the limits or each institution's power. There is also confusion in people's minds between the State hierarchy and the position of the party committee."

Source: Filomena Andrade. A life of improvization! – Displaced people in Malanje and Benguela. *In* Robson, 2001.

In seeking out institutions, it should be recognized that pre-existing State and formal institutions may have collapsed, or exist only partially (e.g. administrative-political structures may have disappeared, but subnational technical departments continue). In a changed or changing situation, informal institutions may still exist, or may be new and evolving.

An institutional analysis focuses on the roles and responsibilities of different institutions (particularly women's organizations) in protecting and promoting good nutrition. It should include information on:

- whether the institution is single- or multisector focused;
- how it incorporates cross-cutting issues, such as gender and HIV/AIDS;
- how effectively it networks with government departments, NGOs, local groups and the private sector;
- what technical backstopping support it can draw on from other institutions;
- the origins and funding bases of local NGOs and community-based organizations (CBOs), in order to understand how potential capacity building actions could affect local power relations;
- individuals with knowledge, experience, skills and motivation to work towards improving nutritional well-being.

Identifying priority technical areas of intervention

A food and nutrition situation analysis (see Part III) identifies the factors that affect current and future food and nutrition insecurity, together with the opportunities for strengthening coping mechanisms and reducing vulnerability for different livelihood groups. Analysing this information helps to identify the priority actions that are needed to strengthen coping mechanisms, increase knowledge and skills and reduce vulnerability.

Box 17 gives examples of training for capacity building skills, and provides ideas for food security and nutrition technical content that is relevant to crisis situations.

Box 17: Capacity building for food security and nutrition

Options for capacity building skills:

- Training of trainers: strategy and adult education/training skills.
- Facilitation skills and participatory working techniques.
- Multisectoral team work.
- Techniques for nutrition education and communication.
- Advocacy strategy and skills.
- Programme planning cycle and preparation of proposals for micro-projects.
- Community action planning.
- Monitoring and evaluation of food and nutrition interventions.
- Emergency preparedness.
- Conflict management and consensus building skills.
- Gender awareness and analysis.
- Institutional analysis.
- Forming community groups and associations: leadership and management skills.

Options for technical training content:

- Basic nutrition and household food security concepts oriented towards different target groups (e.g. communities, extensionists, policy-makers).
- Community-based growth monitoring and promotion.
- Livelihood/food economy, household food security assessment.
- Nutrition surveys (anthropometrics, morbidity, mortality, water and sanitation).
- Establishment of food and nutrition information system.
- Data analysis and interpretation.
- Nutritional rehabilitation.
- Skills in food preparation and utilization for infants.
- Processing and conservation.
- Hygiene, food safety and quality.
- Breastfeeding, weaning foods, etc.
- Special nutritional and feeding needs for the chronically ill (TB, HIV/AIDS).
- Home-based health actions (management of diarrhoea, first aid).
- Home gardens.
- Income generation.
- Business and entrepreneurial skills.
- Poultry and small livestock production.

Training and capacity building needs assessment

On the basis of the institutional analysis and the identification of key individuals, it should be possible to decide which of the formal and informal institutions and types of individuals have the most potential for working with communities on their priority actions. The organizations or individuals selected should have access to the affected population and be able to offer assistance in a fair and efficient way. For each organization, it is then necessary to assess its:

- current material resources (equipment, finances);
- human resources (staff numbers and characteristics);

- capabilities (management, technical knowledge and skill areas);
- current work/project load and ability to scale-up or manage rapid expansion.

This information will assist in analysing the gaps and needs for training and capacity building.

Stakeholder workshop

The objectives of a stakeholder workshop are to raise awareness about the need for capacity building regarding nutrition and food security, to discuss the main findings from the assessments, and to identify priority areas for capacity building and training.

Training-of-trainers course

Implementation of the capacity building strategy could start with a training-of-trainers course for participants from different institutions, sectors and/or geographical areas. The new trainers can then continue the training process by developing both facilitation skills and nutrition and food security knowledge in teams, working at the district and local levels. The training approach or mechanism depends on the technical content of the training, the target group, the security situation and the level (local, national, etc.). Box 18 gives some examples of training modalities or approaches for capacity building skills.

Box 18: Different training approaches and modalities in crisis situations

- Mentoring/peer group counselling.
- Short courses.
- Modular courses.
- Distance learning.
- Radio and other media.
- Accreditation from local/national institutions.

Location and channels

- Fixed service facilities (health posts, schools).
- Mobile.
- Community spaces (religious, sport, market).
- Home-based.

Budgets

Budgets for capacity building and training should be flexible in order to respond to new training needs as they arise. In addition to the need for training and knowledge, there is also a need to facilitate an appropriate working context, including the necessary financial and material resources.

Monitoring

Capacity building strategies should be designed in ways that make it possible to learn from successes and failures during implementation. For this, it is necessary that participants evaluate each training event. There is also a need to identify indicators that monitor whether participants are using newly acquired skills and knowledge in their work, and whether the relevant institutions are able to absorb and utilize fully the new expertise that is available to them.

Supporting intersectoral collaboration

A capacity building strategy and the dual approach of addressing both the immediate and the long-term elements of vulnerability to food and nutrition insecurity require very

effective coordination mechanisms and partnerships. Organizational specializations and internal institutional structures can constrain multisectoral activities and/or the smooth transition between relief and development activities.

Developing a common framework

Intersectoral collaboration can be promoted through the use of a common nutrition and livelihoods framework. This can help to incorporate the perspectives and contributions of different sectors' interests, and illustrate the linkages between immediate and longer-term threats to food and nutrition security.

Fostering partnerships and networking for food security and nutrition

Organizational capacity and partnerships are key to supporting local-level initiatives to improve nutritional well-being. No one government department or organization can be an expert in all fields, and there is a clear need for partnerships that are based on the core competencies and comparative advantages of the different partners. Multisectoral coordination and partnerships need to work vertically (i.e. at the local, regional and national levels), as well as horizontally. Flexibility should be encouraged so that professionals can move between and work in different situations and organizations. This can be achieved through twinning (e.g. local and international NGOs) and secondment arrangements from government departments to organizations. It must also be supported by appropriate training that reflects the need to move between relief and development scenarios.

Effective collaboration can lead to the pooling of resources, minimize the duplication or overlapping of activities, and help projects or interventions to complement each other more effectively.

Identifying a focal point for nutrition

For good collaboration and coordination it is necessary to have a clear focal point that is responsible for coordinating nutrition and nutrition-related activities. If there is no single focal point for nutrition, responsibility falls between the agriculture and health sectors, and is often overlooked. Government agencies (both central and local) have a key role to play in coordinating and implementing nutrition activities in crisis situations. A government focal point or institution for nutrition activities might already exist; however, when an emergency is declared this focal point's mandate and functions may need to be reviewed in relation to those of other institutions. Government departments and personnel have a long-term understanding and in-depth knowledge of geographical areas, population groups and problems. This perspective can provide coherence to coordination efforts during a crisis, and continuity and sustainability in the post-crisis context.

In emergencies, formal institutional mechanisms or structures may have deteriorated or be struggling to manage increased demands on time, personnel and resources. In some cases, a more informal coordination mechanism or a strong partnership approach can provide the flexibility that makes it possible to support and strengthen the capacity of evolving local structures. Such an informal mechanism could take the form of a committee or structure that brings together representatives of the different interested ministries, local authorities, multilateral agencies, NGOs and CBOs.

The activities of a nutrition focal point or coordinating body could include information sharing and advocacy, preparing regular overviews of the food and nutrition situation, identifying information gaps, coordinating the implementation of interventions that add value and increase the impact of individual ministries and organizations, disseminating standards, norms and examples of best practice (e.g. standard methodologies for nutrition surveys, norms for supplementary and therapeutic feeding programmes, standard content

for seed packages, and payback mechanisms), and monitoring the implementation of a capacity building strategy.

Intersectoral coordination mechanisms and active partnerships can evolve into formal or informal support networks for household food security and nutrition. These can raise awareness or promote advocacy among policy-makers, planners and donors about issues and activities regarding the food and nutrition situation in vulnerable areas and among vulnerable population groups.

Box 19 provides some examples of inter-institutional collaboration and coordination.

Box 19: Examples of inter-institutional collaboration and coordination

- In Ethiopia, the Disaster Prevention and Preparedness Commission (DPPC) has a Nutrition Unit that provides standards and guidelines for nutrition surveillance and collects and disseminates information on nutritional status.
- In Mozambique, an ad hoc technical working group (consisting of different government ministries and representatives of national and international NGOs) prepared the National Food Security and Nutrition Strategy. This strategy formally established the Technical Secretariat for Food Security and Nutrition (SETSAN), which has the responsibility to coordinate the development and implementation of provincial plans for food security and nutrition.
- The United Nations (UN) can work with NGOs as implementing agencies: e.g. the United Nations Children's Fund (UNICEF) works together with local NGOs for its household food security project, which is part of Operation Lifeline Sudan.
- FAO works with local NGOs to undertake rapid rural appraisals (RRAs) during needs assessments and agricultural strategy reviews, for example in Angola in 1995.
- International NGOs can share and pass on expertise to government staff, e.g. the United Kingdom's Save the Children Fund (SCF-UK) seconded an international expert to the Ethiopian Government to help integrate risk mapping into its existing systems for vulnerability mapping.

Individuals from the UN or NGOs can work as the coordinators of activities. For example:

- FAO emergency coordinators help to develop a framework within which NGOs' seed and tool distributions cover the most needy areas without duplication.
- The United Nations High Commissioner for Refugees (UNHCR) has nutrition coordinators who oversee the nutrition-related activities of the various NGOs working in different refugee camps in the same area.
- SCF-UK seconds an individual to the World Food Programme (WFP) in Liberia to coordinate food security activities.

Among these coordinators' activities is setting up teams to make the best use of accumulated knowledge, for example, that of people who were working for government departments and NGOs before a war.

Current challenges in approaching and responding to crisis situations

Opportunities in crisis situations include contributing to capacity building, promoting intersectoral collaboration and increasing local-level participation. This section outlines these opportunities and presents some of the ongoing debates regarding the response to crisis situations.

Ensuring common principles for involvement

Relief workers and development workers often apply two different value systems in their work. On one hand, humanitarian aid is guided by the principles of neutrality (i.e.

not taking sides in a conflict) and impartiality (i.e. distributing relief goods on the basis of need, regardless of political, religious and ethnic affiliations). On the other hand, development approaches are directed towards empowering vulnerable groups through participation and capacity building.

In complex political emergencies, where both neutrality and impartiality may be under considerable pressure, there may be difficulties in applying these values. The following are some examples of these difficulties:

- The "impartial and neutral" provision of relief goods through the humanitarian wing of an opposition group may release funds that are then spent on rearming and military manoeuvres.
- The creation or rehabilitation of physical assets (e.g. water points) may attract warring factions.
- The distribution of seeds and tools to support agricultural rehabilitation can lead to the looting of crops at harvest time or the implementation of a scorched earth policy.
- A participatory approach may unwittingly strengthen the better off at the expense of the poor.
- A partnership with a local NGO may lead to ethnic or religious biases in the implementation of interventions.
- The consultative structures that are created may be perceived as unrepresentative and externally imposed.

This can create tensions between humanitarian assistance and development programming. However, the growing tendency to integrate humanitarian assistance with the protection and promotion of human rights can provide the basis for actions that address both the immediate and the long-term food and nutrition needs in a coherent way. This calls for an in-depth situation analysis and needs assessment that incorporate an understanding of political and power relations and security conditions. This can then form the basis from which to determine whether a developmental relief approach is ethical, appropriate and feasible. Box 20 shows an example from southern Sudan.

Box 20: Assessing conditions for transition in southern Sudan

In southern Sudan the following conditions were proposed as ways of helping to assess a transition situation:

- There should be a minimum level of security, respect for human rights and humanitarian access.
- Empirical evidence from the field should demonstrate that the emergency is over (e.g. malnutrition rates are normal).
- The move from relief to development should be contingent on donor governments accepting the legitimacy of national government structures and rebel movements, which is in part determined by foreign policy considerations.

Source: Macrae *et al.*, 1997.

Ensuring the right of access to adequate food at all times

A developmental approach to relief assistance is frequently justified by the desire to avoid making beneficiaries dependent and the concern to ensure that interventions are sustainable. However, this approach is often adopted in preparation for an exit strategy when funds for relief assistance are of limited or declining availability. The initiation of longer-term interventions that aim to support strengthened livelihoods cannot be used to justify the cutting of basic entitlements to food and health care. This may result in

severe anti-humanitarian consequences on the well-being of affected population groups. A rights-based approach can ensure that access to adequate food is upheld at all times.

Creating and strengthening institutional memory

High staff turnover, particularly in international NGOs, can contribute to poor institutional memory and failure to act on lessons learned in previous situations. A review of staff profiles and staff training requirements can highlight the need to broaden the disciplinary base (e.g. by adding group facilitation and communication skills). Training could be provided to strengthen and encourage intersectoral work and the flexibility to work under different scenarios.

Advocating for donor and government commitment

Development programmes aimed at rehabilitating social and production infrastructure and systems require high levels of investment and adequate public financing to cover recurrent costs. Donor funds are normally categorized for either relief or development objectives, and subject to regulations regarding the type and duration of activities that can be supported. In relief situations, it is important to react, and to be seen to act quickly. Planning and funding horizons are short-term, and implementing agencies are acutely conscious of accountability to donors and the fundraising public. There is less concern about accountability to the affected populations and communities. Advocacy and the lobbying of national governments and donors are required to ensure that there is political commitment to release funds that support activities with a long-term perspective in emergencies.

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Technical briefs (Part VI)

Brief 3 provides guidance on using participatory tools in household food security and nutrition assessments in crisis situations.

FAO/24051/D. Mincoh

Woman going to market

Part III

Household food security and nutrition assessment and analysis

In the acute stage of a crisis, the priority is to determine the severity, magnitude and expected duration of the problem and the most appropriate response. Information is therefore needed on the extent to which different population groups can meet their immediate food, water, health, shelter and protection needs.

When a longer-term perspective is adopted, additional considerations need to be included in the design of an assessment. More detailed information and analysis are required for a broader nutritional and livelihood security assessment that can help the identification and design of appropriate interventions. This will demand a range of different sectoral expertise and will raise methodological and implementation issues related to the type of emergency situation.

Whatever the characteristics or stage of a crisis, local institutions have expertise, experience and information resources that can contribute to assessing and analysing the food and nutrition situation. These resources need to be sought out, utilized and strengthened during the assessment process.

Planning and designing an assessment of household food security and nutrition

When designing and planning a needs assessment in crisis situations, specific methodological and logistical aspects need to be considered. Decisions about which methods are most appropriate for a specific situation depend on:

- the type and stage of the emergency;
- ethical considerations;
- the objectives of the assessment;
- how and for what the information will be used;
- the requirement for "rolling" assessments;
- the link to monitoring activities;
- the interests/abilities of the proposed investigation team.

Different agencies and organizations have their own methodologies or guidelines for assessments. Examples of these are: Emergency Needs Assessment (WFP), Household Economy Analysis (SCF-UK), Livelihoods Assessments (Oxfam), and Household Livelihood Security Assessments (Care International). No one method is inherently superior to another. Coordination and networking among the different agencies involved in the assessment with government information activities will help to ensure that methodologies are complementary and that information outputs are consistent and can be used to identify changes in the situation over time.

A number of external factors may also affect the assessment. These include the time available, physical accessibility, logistical and financial resources, the political context, and the security situation. Once these parameters have been discussed, it is necessary to decide what type of data to collect, the sampling approach, and how local groups and different stakeholders should participate.

Information requirements for saving lives and saving livelihoods

Planning for a needs assessment requires the following: an analysis of who makes decisions about nutrition interventions; an understanding of what kind of information is needed, and by whom; and the identification of what kind of decisions will be made on the basis of that information, and when the information is needed. The framework developed in Part I can form a basis for discussing the themes to be investigated with potential information users. These themes can be grouped as follows:

- how different types of households (e.g. by socio-economic, livelihood or geographical grouping) normally obtain access to food and achieve nutrition security in different seasons;
- the risks to livelihoods that threaten household food and nutrition security in the immediate future and the longer term;
- how households manage or cope in times of crisis;
- people's own perceptions of their food and nutrition problems;
- the political context and security situation;
- the policy and institutional context and processes that affect household food security and nutrition.

A balance will need to be made among the requirements of different agencies and potential partners, taking into account the time and resources available and the principle of "optimal ignorance". Once the major themes have been identified, core or minimum data needs (quantitative and qualitative) can be specified. Brief 1 provides guidance on developing and preparing checklists for data collection.

When planning a needs assessment it is useful to prepare an analysis plan. This helps to ensure that only data that will be used are collected, and assists forward planning so that the skills, materials, computer equipment and software, etc. required for data analysis are in place. It can also reduce the time lag between collecting the data and making the information available.

Identification of geographical areas and livelihood groupings

In order to provide a basis for geographical targeting, the study area and population must be split up for assessment. This should be based on knowledge of the area or country, preliminary analysis of secondary data and existing vulnerability maps, and information from key informants. A decision will have to be made as to whether data collection is based on administrative boundaries (e.g. districts, provinces); agro-ecological zones, food economies or livelihood systems; or a combination of these. Different social or occupational groups within the different areas will then need to be investigated.

Existing knowledge and secondary information

Even in a crisis situation, knowledge and information related to agro-ecological conditions, natural resource utilization, food production systems, nutritional status and socio-economic status already exist. Such material can be found in census data, survey reports, descriptive reports, etc. from government departments and national and international NGOs. Information may be available in printed or electronic form, or may have been lost or destroyed. If official records and documents are not available, the same information and complementary knowledge may be accessible through key informants. Using a "nutrition lens", a systematic review and assessment of secondary data related to the themes under investigation will help to refine the initial problem statement, narrow down information gaps and identify where there are additional data needs. As with any source or type of information, it is important to assess the quality and credibility of secondary data through

verification and triangulation. Time invested at this stage will avoid the duplication of effort and reduce the cost and duration of primary data collection activities.

Quantitative and qualitative data

Both quantitative and qualitative data are required in emergency situations. This implies the need to combine methods and approaches according to: the information needs in a given situation; the time, financial resources and skills available; and the type and level of reliability desired. Two types of survey methods are normally used for assessing the nutrition and food security situation in emergency situations: a statistically representative anthropometric survey can be used to quantify the severity of a nutritional problem (see Brief 2); and rapid appraisal approaches can be used to obtain more in-depth information about the causes of food insecurity and malnutrition (see Brief 3). Both quantitative and qualitative assessments require rigorous and systematic data collection and verification in order to ensure the reliability of the data.

Sampling approaches

Once the general area for the assessment has been identified and decisions about the balance between quantitative and qualitative data have been made, random or purposive sampling should be used to select the sites to be surveyed. If the results of the needs assessment are going to be used to make inferences or generalizations about the total affected population, it is necessary to use a statistically representative sampling technique. In an emergency situation, two-stage cluster-sampling techniques have the advantages that it is not necessary to construct a sample frame (i.e. list all members of the population) and fewer sites need to be visited.

Purposive sampling is most often used in investigations that are collecting qualitative data through open-ended questions, for example, attitudes towards breastfeeding or practices related to diarrhoea management. RRAs/participatory learning and action (PLA) normally use purposive sampling techniques. If purposive sampling is used, local knowledge should be sought to help select the districts and villages to be visited by the assessment team. The locations visited should be typical and represent each of the areas experiencing problems. There are no rules for the size of a purposive sample, but an assessment of the credibility of purposive samples should consider the purpose of the study and the best sampling strategy to achieve that purpose. For some users, random sampling of even small samples will substantially increase the credibility of the results, for example, listing all the households with a certain characteristic (ex-cattle owners) in a particular area and then randomly selecting some for interview. This reduces suspicions regarding why a particular household is selected for interview, and increases the credibility of the results. However, this approach does not permit statistical generalizations.

Team composition

Time spent on selecting and training staff for a needs assessment will be an investment in future multisectoral programming actions and capacity building initiatives. Ideally, staff with local knowledge and a good understanding of the political and broader regional contexts should be borrowed from NGOs or future implementing partners. The team should be as small and unobtrusive as possible. Its composition depends on the particular focus and methodology of the assessment, and should include an appropriate combination of experienced nutritionists, agronomists, water and sanitation specialists, medical professionals and social scientists (e.g. community development workers, gender specialists). All team members should be aware of how their own and others' vested interests (based on ethnic, religious or socio-economic affiliation) may influence or benefit from the flow of aid and affect the team's interaction with local groups.

Accessibility to affected areas and population groups

Isolation, floods, seasonal conditions and the political and security situation may all influence an assessment team's ability to reach particular areas. In some situations, it may be possible to identify appropriate local professional staff who could be trained and equipped to carry out assessments.

Timing, duration and phasing

Normally, as soon as a problem or emerging crisis is "flagged" by information from an early warning system or other formal or anecdotal source, an initial rapid assessment is carried out so that decision-makers can be made aware of immediate needs. At this stage there is often a trade-off between precision and depth of data and the time needed to collect data. Even if there is not sufficient time for a thorough assessment, the initial rapid assessment is crucial in setting the scene for a more in-depth investigation as the second phase of a needs assessment. Food security and nutritional status have seasonal characteristics. The periods when physical access may be more difficult because of rains are also often the periods of greater food and nutrition stress. The period when an assessment is implemented also has implications on the way in which data and information are interpreted in the light of normal seasonal patterns.

Resource constraints

Gathering new information is costly, and budgets for assessment may be low. Budget constraints also affect whether people with appropriate skills can be recruited and whether adequate transport, fuel and equipment are available to implement the assessment. Assessment is an integral part of programme development; carefully managed joint assessments can reduce costs and contribute to multisectoral collaboration. Investment in data collection usually pays for itself in terms of facilitating good planning and the effective implementation of activities.

Promoting local-level and stakeholder participation

Local people usually have the best understanding of their own situation and the problems that they face. Communities may have been disrupted, but whether they are displaced or still in their homes, people will try to reorganize themselves to adapt to their new situation. Wherever possible, the role of relief agencies should be to strengthen and build local capacity and facilitate participation and local-level reorganization to lead to sustainable recovery.

Encouraging people to identify their own problems and constraints and helping them to plan locally feasible solutions are more likely to meet real needs. These will be more effective and likely to achieve outputs that can be continued with minimal external inputs. A participatory process can also foster the progressive reorientation from dependence on external assistance to local initiative and self-help, thus bridging the gap between relief and rehabilitation and leading to sustainable improvements in household food security and nutrition.

Participation is not a homogeneous entity – different levels and types of participation are required and feasible, depending on the objectives and context. While the principle or right of beneficiaries and civil society to participate in development and humanitarian interventions is recognized, there are obstacles to its practical implementation. It is often not clear who holds the rights (individuals or groups) and who the duties (national government and/or international bodies), and to what extent participation and the mechanisms through which it is implemented are legally binding. It is necessary to assess who the different stakeholders are (local people, CBOs, local interest groups, government technical departments, local administrations, potential implementation partners/donors) and their roles in respecting, protecting and fulfilling the right to food.

FAO/23822/D. Minkoh

Woman preparing grains for milling

In the acute stages of an emergency, the principle of participation has to be balanced with the need for a timely response. In the very first phase after a disaster, there may be little time to engage in participatory techniques, which can be time-consuming and assume that people have a certain degree of control over their own situation and future. In some emergency contexts it may even be dangerous to try to incorporate participatory practices, as this can lead to severe abuses of relief and the strengthening of powerful groups and individuals at the expense of the weak. However, in many contexts, participatory approaches can be used cautiously. Representative structures (reflecting the local context with respect to gender, ethnicity and socio-economic status) that acknowledge but are not dominated by local political power dealings need to be identified and strengthened, or established. The context of relationships among State structures, local structures and affected population groups also needs to be recognized. When planning for a needs assessment, local people and civil servants with technical skills and knowledge in health, nutrition, agriculture, communication and facilitation should be actively sought out, trained and included in the assessment team. During the design and planning of interventions, feedback and consultation with key local people and government departments will help to inform decisions about the mechanics of implementation, for example, the timing or location of service provision. The prioritization and implementation of interventions require a broader type of participation to ensure that there is an understanding of the reasons and criteria for selection and targeting. This kind of participation will also increase transparency and accountability in the allocation of assistance. Wider mobilization and sensitization are required for some interventions, for example, immunization campaigns. In comparison, participation in an intervention that provides small grants for particular livelihood activities will be more limited.

Identifying and understanding different perceptions

Women's opinions should not be overlooked as women play a key role in procuring and preparing food (including collecting fuelwood and water) and in caring practices. In war situations, women see the impacts of conflict every day, and they have to deal with some of its effects in terms of access to water resources, markets, etc.

Older people's perceptions and views are important, as they make key contributions to the livelihoods of their families and communities through generating cash income, facilitating access to work and contributing to child care. They may also be in a better position to understand changes in traditional care provision practices, and how drought, economic migration and war have affected family structure and livelihood systems. Children and youth can be particularly vulnerable in conflict situations, and appropriate techniques for understanding their needs and views on the future should be used in any assessment.

Box 21 shows how perceptions change according to age, gender and length of residence in Angola.

Box 21: Perceptions by age and gender among IDPs in Angola

> "Displacement affected the different age groups and the sexes differently. Some young people were born in the places of refuge and some arrived there when very young so do not remember the things that happened. Older people do remember and their memories are negative: deaths of immediate family members, hunger, illness or rape. These recollections create difficulties in adapting to their places of refuge." "Men older than 18 have quite detailed memories … women of this age group have more selective memories, and focus on the problems that their own families experienced … old men and women are cautious about stating their opinions, but their memories are strongly marked by feelings of loss: cattle, goods, strength, values, power, dignity, and status. Their age means that they have little hope of reconstructing their lives before they die, and this forms part of their sense of loss…."

Source: F. Andrade. 2001. A life of improvisation! – Displaced people in Malanje and Benguela. *In* P. Robson, 2001.

How can people participate?

Locally based institutions (government and non-governmental) will already have information and experience, and within the affected population there will be professionals who can be included as team members or key informants in an assessment.

Depending on the methods used for the household food security and nutrition assessment, the perceptions and opinions of different groups within the affected population can be gathered through liaison with existing representative bodies, CBOs and focus groups. Focus group discussions can be centred on different livelihood/occupational activities, such as fishers or market traders, but should also take into account age and gender and any existing ethnic differences.

Continuing an iterative process

The participation of potential stakeholders (interest-based groups, local institutions, government departments, implementation agencies, donors) will contribute to an iterative consultation process throughout the programme cycle. Dialogue within communities can contribute to the establishment or re-establishment of social capital in terms of bonds among individuals, trust, social fabric, common social norms and defined roles.

Potential implementation partners and donors should be involved in identifying information needs that are appropriate to their respective technical areas or sector interests, and should be kept informed of preliminary findings. If donor organizations have been engaged during the needs assessment process, they will have more confidence in its findings. At a later stage, the findings and recommendations should be discussed with these stakeholders as part of the negotiations regarding funding and implementation modalities. Broad participation can also contribute to consensus building and the responsible use of information for advocacy purposes.

Constraints to participation

A number of difficulties can arise when trying to increase local participation in needs assessments. These include raised hopes and expectations, bias in information, which can compromise the independence of an agency, and the additional time and resources needed for a more participatory approach. These are discussed in the following paragraphs.

Raising hopes and expectations. The history of previous emergency and development interventions will influence the hopes and expectations of affected populations. Clear

oral and written information about the purpose and possible outcomes of the needs assessment should be made available to different local leadership structures (religious, administrative, political, CBOs), as well as to the population groups covered directly or indirectly by the assessment.

Identifying biases. Biases can emerge when only certain geographical, political, socio-economic, ethnic, age and gender groupings are reached. Biases can result in severe abuses of relief, and can strengthen the powerful at the expense of the weak. Respondents are unlikely to underestimate their own needs for potential emergency assistance. The potential biases in different sources of information and the implications for power relationships should be taken into consideration in both the choice of methods and the selection of team members for needs assessments. Early feedback on preliminary assessment findings to different groups at different levels is not only good survey protocol, but can also act as an important verification tool to identify biased information. Using a participatory approach in an inappropriate context can endanger the impartiality and neutrality of a needs assessment.

Additional costs and time. The use of a livelihood approach and greater local participation is costly in terms of the time and resources required for needs assessment. At the beginning of an acute crisis, these may not be available on the side of either the affected population or the organizations wishing to undertake the assessment. A livelihood-based needs assessment also has implications in terms of the type and duration of interventions that will emerge. Interventions that protect and promote good nutrition through strengthening livelihoods need to start earlier, to have broader target groups and to last for longer than interventions that focus on immediate life-saving needs.

See Brief 3 for specific techniques that can be used to encourage participation in the assessment and design of interventions.

Analysis and interpretation of data and reporting

The technical briefs on developing checklists (Brief 1) and different survey and assessment methods (Briefs 2, 3, 4 and 5) provide practical guidance for implementing assessments. The data collected then need to be analysed to provide the following information:

- the extent (numbers affected), severity (food and income deficit) and likely duration of food insecurity for different population groups and livelihood systems, in order to establish whether or not food aid is required;
- the extent, severity, distribution and causes of acute malnutrition;
- the short- and long-term risks associated with vulnerability to food and nutrition insecurity in different livelihood systems;
- the groups (by physiological, socio-economic and residential status) that are most vulnerable to food and nutrition insecurity;
- opportunities and constraints in each livelihood system (including the political and security situation, the policy environment and resource use and control by gender and age status, and institutional capacities);
- local priorities and expectations.

In assessments using RRA/PLA methods, data analysis normally needs to be undertaken at the same time as data collection. This helps to create a picture of the situation and identify gaps and inconsistencies in information that can be resolved while fieldwork is in progress. Part I of this document presented livelihood, food security and nutrition concepts and interrelationships that can be explored during data analysis. Data can be structured, evaluated and synthesized by using matrices for each thematic area under investigation and comparing the situation for each livelihood and/or socio-economic

group. Differences by age and gender should also be noted. Box 22 gives an example of what an assessment report could cover.

Box 22: Example of report content

- The recent history of food security, and relevant policies prior to the current situation.
- The pre-disaster food security situations of different livelihood groups.
- The impact of disaster on the food system and food security of different livelihood groups.
- Identification of vulnerable livelihood groups, or those vulnerable to food insecurity.
- Suggested interventions, advocacy and additional assessments.

If food aid is considered an appropriate response, include a clear statement of the precise nature, purpose and duration of any food aid intervention. This should be justified on the basis of the above data and analysis.

Source: Sphere Project, 2004.

When it is difficult to obtain quantitative data, analysis can compare how the current crisis situation is different from a normal or baseline year, or the previous year. It is important to identify trends in food availability and access, changes in sources of food and income, or the stage in a sequence of coping/crisis strategies. In conjunction with the suggestions for different checklists in Brief 1, the following subsections provide a basis for analysing the data obtained.

Analysing the wider political, economic and institutional social context and its impact on food and nutrition security

- How do macroeconomic conditions and policies affect food security and nutrition? Are there structural factors that underlie the current crisis? Will the current crisis affect the macroeconomic situation?
- How does the current situation affect trade and food marketing activities (locally, nationally, regionally); for example, sanctions, blockades, bans on exports, import tariffs, restrictions on the movements of traders?
- How might the political and social context affect or constrain the assessment process, or the selection of interventions and implementation mechanisms (e.g. targeting)?
- What government departments, NGOs and CBOs are working in food and nutrition activities? How do their institutional capacities influence the effectiveness of actual or potential interventions?

Analysing the asset base of different livelihood groups:

- How do households obtain and use assets (natural, economic, physical, social, institutional) in normal times, and how has this changed as a result of the crisis?
- Are there differences by household, livelihood grouping and geographical area?

Analysing food security

Food availability:

- If available, macro-level data such as food balance sheets can be used to determine overall national shortfalls, and may help to give a dimension of the overall food gap problem. However, such data do not reflect the needs of vulnerable households.

- Meteorological data, in conjunction with land under cultivation and crop yield estimates for key crops, can provide information on production differences across geographical areas and between years.
- The contribution that second plantings or dry season production in wetland areas make to food availability should be included.
- The contribution of root crops to staple food production should be estimated. There are inherent methodological problems associated with calculating the production of crops with multi-year growing cycles, such as cassava. There can also be difficulties in estimating the production of crops that can be harvested on a continual basis, such as sweet potatoes.
- In pastoralist-based economies, trends in livestock health and production and off-take (including distress sales) can be analysed.
- If reliable population data are available, per capita kilocalorie availability values can be calculated for districts and socio-economic and livelihood groups for comparative purposes.
- Seasonal food availability calendars can be used to identify seasonal shortfalls for specific foods, and the possible risks of specific nutrient deficiencies.
- Data on household food stocks that are collected through either physical inspection or the household's own estimates can be used to approximate the likely duration of the hungry season. Both these methods are difficult in emergency situations, where food stocks may be vulnerable to theft and households have a vested interest in reporting low stocks.
- The food availability situation should be compared with those of the previous year and of a normal year.

Analysing food access:

- It is necessary to determine whether there has been a change in the amount of food obtained from the usual principle food sources, what the shortfall is, and whether households have been able to cover the deficit through other means of obtaining food.
- If staple food production has been reduced through drought or the effects of conflict, there is a need to analyse whether households have been able to turn to other sources of food (purchase, wild foods, gifts from kin and neighbours), or to expand existing employment opportunities or take up new forms of employment to provide cash for food purchases.
- Market prices (for cereals, livestock, essential non-food items) and casual wage rates can be used to calculate the purchasing power of a normal daily wage, exchange ratios and the local values of rations. Prices fluctuate seasonally if there is significant local agricultural production. Other fluctuations may occur in situations where parts of the population are dependent on food rations and there are ruptures in the food aid pipeline, and/or security conditions affect normal transport routes.
- The proportion of expenditures spent on food can be compared across different groups. Interpretation should take into account that better-off groups may spend a high proportion of their expenditures on food in order to diversify their diets.
- Do any types of households or individuals have difficulty obtaining physical access to markets?

Analysing food utilization:

- Meal frequency of different household members (e.g. adults and children under five years).
- Frequency of consumption of specific foods. This type of data can be analysed and interpreted by using simple scoring systems, and can indicate the presence of micronutrient-rich foods, the absence of which could indicate micronutrient deficiencies.
- The availability of and distance from water and fuel sources can be related to their effects on food preparation and women's time.
- Availability and utilization of storage and processing equipment, and its suitability if new foods have been introduced through the ration or are being cultivated.

Analysing the social and caring environment:

- Availability and use of essential non-food items: soap, blankets, cooking utensils, clothing and footwear. Impact on individual and household dignity and well-being.
- Availability and use of latrines can be assessed in relation to the incidence of diarrhoea, intestinal worms, etc.
- Changes in caring practices such as breastfeeding, in the composition of complementary foods and in family and food hygiene practices can signal threats to nutrition security.
- Levels of basic literacy and nutritional knowledge.
- A high proportion of orphan-headed households or of elderly/disabled people living without family support can indicate a breakdown in social networks.
- Types of households and individuals (by socio-economic and livelihood group, gender and age) resorting to coping and crisis strategies. How does the use of these strategies affect short- and long-term food, nutrition and livelihood security? A growing proportion of household members engaged in activities that are likely to lead to deteriorating health status indicates increasing vulnerability.

Interpretation of anthropometric data

Anthropometric data can determine the existence and extent of poor nutrition. It can also predict how the problem will evolve if no action is taken, as anthropometrics provides strong predicators of morbidity and mortality. However, there are no universally applicable rates to define the severity of a situation, and so trends in anthropometric indicators are the most useful way of interpreting them. In crisis situations, rates of malnutrition and mortality may not increase until the problem is very severe, and only certain indicators of nutritional status are sensitive to short-term changes in food intake. Wherever possible, data should be disaggregated by age and social or occupational groups. See Brief 2 for further guidance on the interpretation and use of anthropometric data.

The use of contextual data: morbidity and mortality data. In order to determine the causes of malnutrition for different socio-economic groups, areas or age groups, trends in nutritional status should be compared with:

- morbidity and mortality patterns and rates (particularly recent outbreaks of measles and diarrhoeal disease and estimated prevalence of HIV/AIDS and TB);
- the proportion of the population with access to water and sanitation;
- immunization coverage and access to health services;
- breastfeeding and infant feeding practices;

- the food security situation;
- recent population movements.

Analysing who is vulnerable

A picture of what types of households are more vulnerable to food and nutrition insecurity can be developed by using data disaggregated by livelihood system and socio-economic status. An examination of intra-household food allocation (by age and gender) and caring practices will help identify individuals who are at greater risk of malnutrition.

Chronically resource-poor households. These households have few possessions or assets and less resilient livelihood strategies, and they are more vulnerable to food insecurity in crisis situations. Not all poor households are at risk of malnutrition. Some may have a combination of good sanitation and environmental conditions, be able to manage their limited resources effectively, or have cultural practices that help to protect members who are at increased risk because of their physiological status (children under five years, pregnant or lactating women, and the chronically sick).

Some situations may have led to the widespread loss, theft or destruction of household productive and liquid assets, so that previously rich households are suddenly as vulnerable to food insecurity as poor households. However, richer households may also have less obviously visible assets such as skills, social standing and kinship networks that enable them to recover more quickly.

Social factors. Conflict situations and the HIV/AIDS epidemic can result in households and individuals (e.g. orphans, single male youths, elderly people) losing their kinship networks. While many cultures try to ensure that these individuals are cared for within the extended family network, this too may have broken down or, in the case of orphans, vulnerable individuals may be disinherited of land and other assets.

In conflicts that have an *ethnic or religious dimension*, certain households may be discriminated against or marginalized because they belong to or have married into the wrong group.

Vulnerability at different stages of the life cycle. Nutrient requirements differ at different periods in the life cycle (pregnancy, lactation, infancy, childhood, old age), and some deficiency diseases are more prevalent in particular population groups.

The disabled, mentally ill and chronically sick. Some people may have physical, sensory or mental disabilities that make them more vulnerable than others to the safety and health hazards of disasters. They can have specific needs in emergency situations; for example, shelter allocation close to service facilities, aids to compensate for their disabilities.

Gender considerations. In crises, particularly those involving conflict, a large proportion of households are without men. This may be because male household members have migrated in search of employment, have joined warring factions, or are missing or killed. Women therefore often have to cope alone with increased responsibilities for both productive activities and household chores, which limits their possibilities for involvement in public works. The physical safety of women is also often threatened by the presence of land mines, increased lawlessness and instability. Women are often deliberate targets of rape and violence in war situations, or they need to negotiate entitlements in exchange for sexual favours. Girls also shoulder increased physical and psychological burdens, through taking on additional household duties, missing out on education and schooling opportunities, and having to accept involuntary early marriage.

The most vulnerable members of society are the *physiologically vulnerable* individuals *in socio-economically deprived households*. In conflict situations, particular ethnic groups may be at risk of additional harm. While the physiologically vulnerable can be readily identified, and specific interventions targeted to meet their particular needs, the identification of households at risk for socio-economic reasons is more difficult. No single criterion can automatically be applied, and measures to address vulnerability will depend on each particular situation. Identifying or targeting particular ethnic groups may also increase their vulnerability.

Interpreting risks to food and nutrition security

It is also necessary to analyse the data in terms of threats to long-term food and nutrition security and what the opportunities are for strengthening the capacity to deal with these threats. The framework presented in Part I outlines potential risks; these should be specified for each livelihood system, along with how a shock would affect the livelihood activities of different socio-economic groups and whether this would increase the vulnerability to food and nutrition insecurity and/or poverty. For each livelihood system it is also important to analyse how positive attributes can be supported and strengthened and how leverage points (e.g. existing programmes and institutional capacity) can be used to mitigate and/or reduce future vulnerability to food insecurity. A strengths, weaknesses, opportunities and threats (SWOT) analysis is a useful tool for organizing and analysing information in terms of understanding the strengths and weaknesses for each livelihood group and the opportunities and threats coming from outside the group. By carrying out a SWOT analysis for each livelihood group, common factors can be identified that can lead to the development of a "win–win" intervention strategy, or potential tensions can be identified where conflict management or consensus building is required. See Brief 4 for guidelines on how to carry out a SWOT analysis.

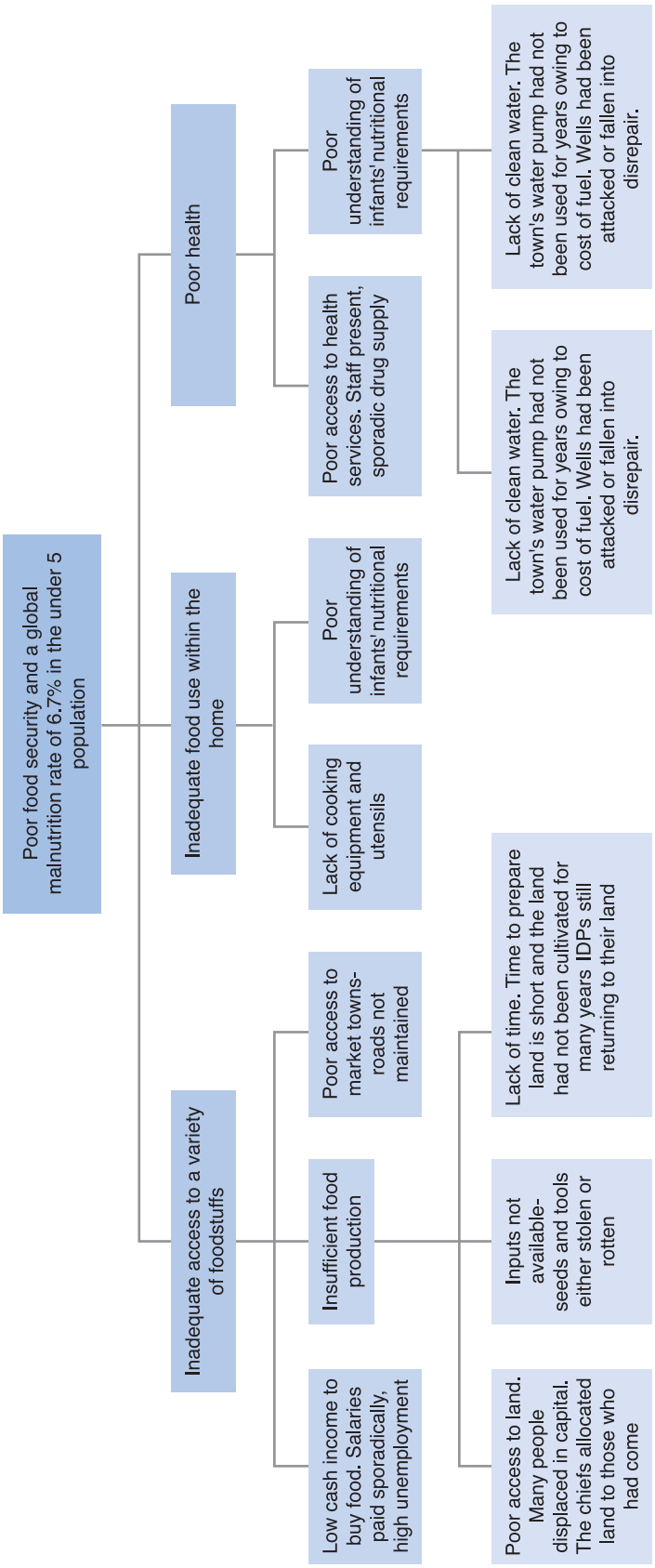
Identifying priority problems

The above analysis based on a nutrition and livelihood framework will provide an understanding of the key problems and characteristics (asset base, demographics, nutritional well-being, coping strategies) for different population groups.

Different tools are available to assist the prioritization of key problems. A "problem tree" can be developed for each livelihood group, showing the cause and effect linkages and the interrelationships among problems (see Brief 5 for guidance on developing and using a problem tree). For each problem, it is necessary to specify which type of household (e.g. single-headed, with small cultivated areas, IDPs, returnees) or individual (e.g. elderly, orphans, physically disabled, widows) is most affected by these problems. It is also necessary to consider how gender and age differences and relations influence the impact of these problems. Such analysis will show that diverse actions are required, depending on how a shock affects different aspects of livelihoods and on the coping ability of the population group(s). It is then possible to plan and select the most appropriate interventions.

Figure 2 provides an example of a problem tree for the food and nutrition problems identified in Lunsar town, northern Sierra Leone. The country had seen a protracted and vicious civil war for more than five years. Peace had been brokered, and democratic elections had taken place in March 1996. The assessment took place in July 1996.

Figure 2: Example of problem tree



Source: Kate Godden, Children's Aid Direct, Sierra Leone. Personal communication.

Further reading and resources

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Technical briefs

Brief 1. Development and testing of checklists

Brief 2. Anthropometric surveys

Brief 3. Rapid appraisal techniques

Brief 4. Developing a SWOT analysis

Brief 5. Developing and using a problem tree

FAO/23435/M. Bleich

Meals being distributed at a feeding centre

Part IV

Planning and targeting household food security and nutrition actions

Local-level planning, combined with the bringing together of people from different government departments and institutions, strengthens local capacities in the longer term. This contributes to sustainability so that activities will continue after external support has been withdrawn. Even in the initial acute stage of a crisis, when there is pressure for rapid decision-making and planning, efforts should be made to take a long-term perspective and to build commitment and consensus with the local population. Men and women need to be consulted and actively involved in decision-making in order to find out how they can contribute and assume ownership of the recovery process. Coordinated planning can also ensure that external agencies work where there is most need, and that there is appropriate geographical and technical coverage.

While the design and planning of appropriate interventions should be based on reliable and timely information, in practice the planning of priority actions is also linked to other factors, such as political context, the scale and stage of the emergency, the availability of resources, and the management requirements for different types of interventions.

The objectives of planning and targeting for food and nutrition actions are to:

- ensure local participation and stakeholder involvement in the planning process;
- ensure that potential actions take a long-term perspective to address key problems;
- ensure that interventions are directed to priority groups;
- identify appropriate implementation mechanisms;
- ensure adequate resources and funding horizons.

Interventions need to be designed so that they can respond to:

- rapidly changing situations that alternate between relative stability and crisis;
- population groups that may have been displaced on successive occasions;
- an unpredictable duration of the crisis;
- different locations and statuses of affected population groups: rural/peri- urban/urban; formal camp/informal settlement/with host communities; refugee/IDP/population *in situ*;
- fluctuating humanitarian access to affected population groups and areas because of political or security factors;
- the political and social context of the situation.

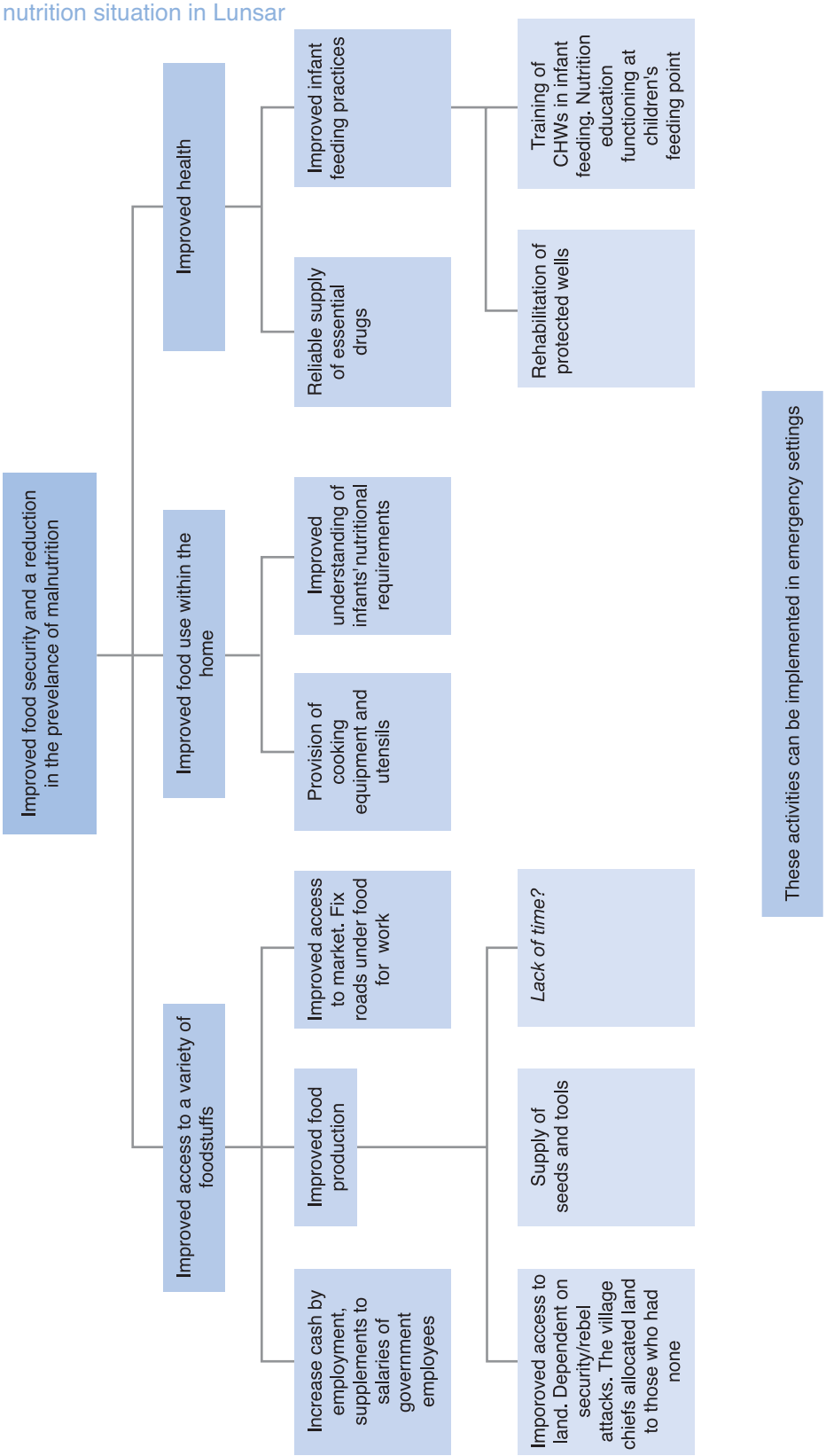
Identifying objectives and potential activities

Within the overall goal of protecting and promoting good nutrition it will be necessary to formulate immediate objectives to address the key problems identified. Figure 3 shows the type of objectives that were identified based on the Lunsar problem tree.

Donors often require a logical framework that supports the project or intervention proposal. Where lack of stability and insecurity are constraining factors, it can be difficult to set measurable objectives. It is easier to judge whether objectives are realistic when there is good knowledge of the population and area in which the activities take place. It is important to keep a clear vision of the overall objectives, but adaptability may be

needed in the implementation of activities. Objectives, outputs and the indicators to measure progress need therefore to be revised periodically in order to keep up with changing conditions.

Figure 3: Identification of potential objectives and activities to address the food and nutrition situation in Lunsar



Source: Kate Godden, Children's Aid Direct, Sierra Leone. Personal communication.

Selection and screening of interventions

Limitations on time, resources and implementation capacity make it necessary to identify a limited number of complementary priority actions that will have the greatest impact and/or leverage on nutritional well-being. At the same time, it is necessary to screen for any possible negative impact. A wide group of stakeholders should identify criteria for selecting and screening interventions. The criteria can then be used systematically to evaluate each potential intervention. Box 23 provides examples of screening criteria that could be adapted to specific local conditions.

The planning team could draw up a list of locally relevant factors against which to screen potential interventions. Part V provides examples of how to screen potential interventions against these criteria.

Box 23: Examples of screening criteria

Relevance to the defined problem: i.e. is the intervention likely to address:

- the causes of the most critical nutritional problems that have been identified (e.g. production versus access issues);
- the groups most affected by the problem;
- the periods/seasons when the problem is most critical?

Feasibility: Are the requirements for successful implementation present? Are there technical, political, security, cultural or financial constraints to successful implementation?

Effectiveness:

- *Nutritional impact*: biological, behavioural.
- *Reduction of inequalities*: e.g. gender, division of labour and time availability, age, socio- economic differences, control of income, access to productive resources (land, technology).
- *Stimulation of participation and increased self-reliance*: i.e. Does the design of the intervention encourage participation by particular groups (women, youth)? Is the kind of participation relevant? Will the intervention increase dependency (food aid), or could it be redesigned to avoid doing so (seed multiplication versus free distribution)?
- *Strengthening or adding value to other project interventions*: Is the intervention complementary to other activities? Does it create conditions for a transition to long-term sustainable interventions aimed at re-establishing livelihoods and nutrition security?
- *Other effects*: impact on food prices, environmental impact, natural resource use, creation of political tensions.

Ease in targeting: How easy is it to identify the operational characteristics of the target group for practical application? How accessible is the target group?

Cost-effectiveness: in comparison with alternative interventions.

Ease in evaluation: Can baseline indicators be identified from the needs assessment? Can monitoring identify triggers for a transition/exit strategy.

Sustainability: Is the intervention likely to become a long-term ongoing activity?

Source: Adapted from FAO, 1983.

Selecting interventions that are complementary

Ensure an appropriate mix of short- and long-term actions

In most emergencies, the focus is legitimately on immediate life-saving actions to help populations in distress. Normally, it is not until some time afterwards that anything other

than the immediate needs for food, shelter, water and other essentials are considered. However, an understanding of the long-term factors that increase vulnerability to food and nutrition insecurity should make it possible to design and plan an intervention strategy that can address both current and chronic vulnerability to food and nutrition insecurity.

Box 24 gives an example of how the potential objectives and activities identified in Lunsar (Figure 3) were developed into an integrated programme.

Box 24: A small-scale integrated programme to reduce food insecurity

In 1996, Children's Aid Direct (CAD) established a small-scale integrated programme to reduce food insecurity in Lunsar town, Sierra Leone. A needs assessment was implemented using a combination of rapid appraisal techniques and a formal survey of the town (including a problem tree, see Figure 2).

The assessment highlighted the following problems, which CAD prioritized:

- poor infant feeding and weaning practices;
- poor access to water – many of the wells in the town were damaged and/or dry;
- farmers who had been displaced to Lunsar town wished to return to their land in the villages;
- very low agricultural activity and overgrown fields;
- little or no access to viable seeds and/or tools for farmers;
- a malnutrition prevalence of 5 percent in the under-five population, or 170 children in the town.

A three-pronged programme was set up:

- A seeds and tools project was implemented to encourage farmers to return to their land. Seeds were purchased from a seed multiplication project in Freetown. Local blacksmiths were commissioned to make the tools. This ensured that tools appropriate for the locality were made, and boosted the local economy. The fact that the blacksmiths were working again symbolized the coming of better times for the local people. WFP supplied food for work.
- A supplementary dry ration feeding programme for malnourished children was set up at Lunsar health centre. Local staff ran the programme, and WFP and CAD supplied the food.
- A health education project was implemented by trained health professionals and ran alongside the feeding programme. Minor refurbishment of the health centre was carried out to make it secure, and stationery and furniture were supplied.
- Water and sanitation were outside the remit of the agency, but effective coordination allowed another organization to step in and build a new protected well to supply the health centre.

Source: K. Godden, 1998, personal communication.

Clustering and sequencing of interventions

It is possible to cluster and/or sequence complementary actions, so that there is an added value to individual interventions. This can be achieved whether the principle intervention is aimed at reducing current or long-term threats to food and nutrition security. Examples include an intervention that is designed to improve dietary diversity incorporating sequential actions to increase the availability of a wider range of seeds, together with extension advice for improved production techniques and nutrition education to promote consumption. Mechanisms for coordination among implementing partners and with donors need to be sufficiently harmonized so that the same approach is used throughout a particular geographical area or target group. In practice, it is difficult to achieve joint implementation of complementary activities by different sectors or organizations. Instead,

a common conceptual framework and appropriate coordination mechanism can help to ensure that the targeting and sequencing of activities provide mutual reinforcement.

Flexibility in the design and implementation of interventions

Interventions must be designed to be flexible enough to respond to rapidly changing situations on the ground. Decisions about when to shift between different types of intervention can be made easier when possible "triggers" have been identified beforehand. These can relate to the types of conditions, indicators and time scale that would make a shift necessary or feasible. Such types of conditions may include an adequate rainfall pattern, a stable or improved security situation, adequate quantity and quality of land available for resettlement, political stability, and donor commitment to long-term funding. Indicators could include malnutrition rates at normal levels, stabilized market prices, and increased local employment opportunities. Time benchmarks when shifts in interventions are more appropriate could be identified for different livelihood patterns, for example, pre-planting period, post-winter, opening of fishing season. The data needed to provide this information could be incorporated into a "context" monitoring system.

Planning cycles need to incorporate contingency planning, including a portfolio of different interventions that could be mobilized quickly. Work plans should be prepared on a three-month rolling basis to allow flexibility for rapidly changing situations.

Targeting

The use of targeting can ensure optimal impact by directing limited resources to those geographical areas and population groups at greatest risk. However, targeting can have potential negative effects because of poor programme design or failure of the targeting mechanism. One example is when poorly targeted emergency food aid distorts the local market economy and leads to a decrease in local market prices, which creates a disincentive for local producers. Another example is when geographic targeting encourages population groups to move in order to take advantage of assistance.

Targeting issues are particularly difficult in complex emergencies, where the choice of targeting methods is influenced by time limitations, the information available and security considerations. In order to reach the most vulnerable population groups, it may sometimes be necessary to surmount strong political and economic interests of the forces controlling the situation. Ineffective targeting can contribute to prolonging the conflict, for example, when large amounts of food aid are diverted to feed the military, or when the most needy (e.g. ethnic or religious groups) are excluded or neglected. In conflict situations, the design of targeting strategies needs explicitly to recognize local power relations, and targeting should only be attempted where it is technically feasible to do so. An example of this in Burundi is shown in Box 25.

Box 25: Non-participatory targeting in Burundi

The food committees in the regroupment camps of Burundi are composed of representatives from the army, the hill chief, the hill sub-chief and representatives from WFP (all male). The committees are responsible for selecting people to offload food, security, registration, the actual physical distribution of food, etc. Given the overwhelming power of the army, which is heavily armed, participatory mechanisms are not only impossible, but would be risky.

Source: Wilde, 1997, p. 19.

The example from Burundi can be contrasted with the example from southern Sudan in Box 26, where a more participatory approach was possible and gender issues were explicitly addressed.

Box 26: Participatory targeting in southern Sudan

As part of the inter-agency programme Operation Lifeline Sudan, WFP distributes food to areas of great need and high security risk. WFP teams of two to three people have only five days in which to organize the drops of food, portering, security, targeting and distribution. Relief committees of seven women (one of whom serves as leader) and six men are set up. After discussions have been held with counterparts and security arrangements made, there is plenty of time between airdrops of food. This time is used for discussions with the relief committees, including participatory exercises using proportional piling to identify the most vulnerable villages. The selection of beneficiaries within sub-villages is in the hands of a senior female. Only women and particularly vulnerable men can be selected. It is women who are registered, who collect the food and who carry it home.

Source: Wilde, 1997, p. 20.

A targeting strategy should incorporate the most appropriate mechanism (administrative targeting, self-targeting), identify the level for targeting and include criteria for screening potential beneficiaries for admission to and exit from a programme. The technical, social, financial and institutional factors and trade-offs associated with each of these three aspects are described in the following subsections.

Targeting for nutrition interventions

For *supplementary and therapeutic feeding programmes*, individuals are normally screened on the basis of nutritional status (e.g. middle-upper-arm circumference [MUAC] or weight for height), reproductive status (e.g. pregnant or lactating women), health status (e.g. TB, HIV/AIDS) or social status (e.g. elderly, handicapped, orphans, etc.).

The ease of targeting depends on the delivery mechanism (facility-based/take-home ration). Socially and physically marginalized groups can be self-targeted, or may be expected to contribute to the operation of the centre.

For *nutrition education interventions* it is important to consider targeting all mothers, fathers and care takers (e.g. grandmothers, mothers-in-law, etc.), as well as influential persons in the community. Families with well-nourished children can act as role models (e.g. breastfeeding and infant feeding practices) and provide peer support. Fathers and other influential household members hold important decision-making power over the allocation of household resources for the purchase or production of foodstuffs. They also influence intra-household dietary habits and the allocation of foods or special dietary requirements for young children or chronically ill household members. To promote general nutritional well-being and prevent future nutrition problems from arising, all families should be included and information should be disseminated to the general public through different channels.

Food for work will best reach food-insecure populations when it is targeted to the most disadvantaged regions. Although it is normally the more able-bodied members in a population group who become involved, through discussions with local groups a certain proportion of the ration can be allocated to households who are identified as being vulnerable to food and nutrition insecurity but who are not physically able to contribute to an asset creation project. Non-able-bodied households may be able to contribute in other ways, such as by providing child care, preparing refreshments, or keeping records.

Targeting for programmes aimed at *improving and diversifying food production and utilization* needs to take the following factors into account:

- The most vulnerable groups may not have the physical capacity to become involved in agricultural activities.

- Households that can afford to take some risks (i.e. often the better off) are normally the first to adopt new or improved technologies. Therefore, agricultural storage and processing interventions need to be piloted and demonstrated carefully under the typical management conditions for poor households before being disseminated on a wider scale;
- Interventions directed at improving food quality and safety should be targeted at different stages in the production–consumption chain. For example, street food vendors need training in improved practices, and consumers buying products from the market (street foods) need to be aware of and demand hygienic practices.

The establishment of common guidelines and mechanisms for targeting among agencies working in the same area can improve coordination and avoid confusion among beneficiary populations.

Efficient and effective implementation modalities

Implementation partners

The institutional analysis that is carried out as part of the situation assessment and analysis will identify the technical and managerial capabilities of potential implementing partners. The design and planning of interventions should take into account implementing partners' current capacity, and should perhaps start by reinforcing, expanding or modifying their existing activities. Planned activities can extend in coverage or complexity in parallel with training that is implemented through the capacity building strategy. Efficient implementation also depends on physical infrastructure, communication systems, administrative systems for information dissemination, etc. The planning process needs to consider whether the current conditions and status of infrastructure and communication systems will change over the planning time frame.

Setting

The location or setting of the emergency is another characteristic that affects the types of potential interventions. The affected population groups may be *in situ* in their place of origin, displaced within their own country or have sought asylum in a neighbouring country. They may originally be rural-based and have moved to peri-urban areas, or urban-based populations that have fled to the countryside to escape conflict. They may be very visible in formal camp situations, scattered in informal camps or less easily differentiated, being hosted within the local resident population. The existing livelihood patterns and skills of the population, in conjunction with features of the new setting (availability and quality of agricultural land, income-earning opportunities, market dynamics), need to be taken into consideration in order to determine the most appropriate type of response.

Level of intervention

An understanding of the immediate and underlying causes of the key problems will indicate the most effective level of intervention for the principle actions (e.g. individual, household, local group and institution). However, consideration should also be given to the reinforcing actions that might be required at other levels. For example, the rehabilitation of a water point may be a local-level initiative, which could be reinforced by environmental health and hygiene messages at the household/individual level. The longer-term maintenance of the water point would require a local institution (water point committee, neighbourhood group) to take responsibility.

Cost recovery

The sometimes conflicting values between humanitarian assistance and development assistance can lead to difficulties when making decisions about whether assistance

should be "free" or involve some kind of payback mechanism. It is possible that the government and/or local leaders will lobby for free goods. There are times when this is appropriate, for example, for households whose resource base has already been eroded or that are in unstable situations where conflict may return. However, free distributions are unsustainable in the long term and take no account of the local economy or coping strategies. They also devalue the distributed items – which may simply be sold or can be degrading to people and undermine personal responsibilities. In areas where agricultural services (through government or NGOs) are well established, credit or revolving funds may already exist, and general free distribution may undermine those efforts.

During the situation assessment and analysis, the SWOT analysis may have identified potential resources (skills, labour, materials, monetary) within communities that could contribute to project implementation so that beneficiaries can assume ownership of the project. Communal or cooperative strategies may be appropriate, depending on the history and local experiences of these approaches; for example, in some countries or societies these may be associated with forced cooperation or collectivization. Communal approaches based around schools or health clinics will require additional management tasks that may need to be negotiated with facility staff. Payback mechanisms that build on local systems of saving and borrowing (e.g. revolving savings clubs, loans of animals and seeds) may be appropriate. Box 27 provides some examples of payback mechanisms.

Box 27: Examples of payback mechanisms

- ***Small animal raising***: poultry and goats can be provided as a "pass on the gift" project. A mix of male and female livestock are provided, which can be transferred to successive families as they produce offspring.
- ***Promotion of small-scale fish farming***: subsidized sale of fishing nets, or payment may be in kind, i.e. dried fish.
- ***Support to animal health care services***: including vaccines in exchange for animal offtake during drought. Meat can then be distributed (dry or fresh) to feeding centres, vulnerable groups, etc.

Host community considerations

In many IDP or refugee situations, the affected population lives in close proximity to or is hosted within local resident populations. Groups within the resident population may also be vulnerable to food and nutrition insecurity. This may be the result of structural poverty and/or the increasing pressure on natural resources and local-level assets (land, water, fuelwood, food and markets, health services, etc.) brought about by the increased numbers of displaced people. Tensions may arise if a host population perceives that the displaced group is receiving preferential treatment. It is necessary to plan potential support by taking into consideration how the host population might be affected or benefit from interventions. Host communities will be able to supply skills and materials. Infrastructure should be planned so that local residents can also contribute and benefit. Land-lease arrangements could be negotiated with local authorities whereby IDPs/refugees can grow field crops and plant fruit/fodder/fuel trees that benefit the local population when the IDPs leave.

Sustainability: transition/exit strategy

One of the justifications for adopting a livelihood approach is that households will be supported to strengthen and diversify their sources of food and income in order to be less vulnerable to food and nutrition insecurity in the longer term. However, the success of this depends on:

- identifying the most appropriate timing for a transition to a different type of support;
- ensuring that the necessary skills training and resources have been provided;

- linking with other organizations, emerging CBOs and local institutions to provide continued support.

Resource availability and funding time frame

The expected duration of the emergency influences the perception of whether a short-term response to provide relief in the form of basic food, clean water, health care and shelter is sufficient. However, situations that are initially seen as temporary often develop into protracted emergencies because of underlying chronic poverty and/or conflict situations.

Greater and more immediately accessible funds and resources are usually available through relief departments or budgets than through development budgets. Donors tend to have quite rigid guidelines as to the type and duration of activities that can be included in proposals for relief interventions. Often relief funds must be spent within a six- to nine-month period. In addition, in some protracted crises, if the political make-up of a host authority is not acceptable to donors or the international community, the country is classified as being eligible for humanitarian assistance only. This precludes access to development and investment funds.

In order to surmount these difficulties it is necessary to network with other implementing partners and advocate and negotiate with donors. Depending on the context, and the arguments presented, some donors may be more open to stretching the type of intervention that can be included under relief funding, or extending the implementation period.

Understanding the political economy and power relations

Affected populations may be politically or economically marginalized as part of an explicit or implicit government strategy (e.g. to prevent support for rebel groups or to facilitate State investment in areas of high economic potential). Development strategies require choices about the legitimacy of host authorities, which may be a point of dispute. Choosing one host runs the risk of building the capacity of a party to the conflict. Insufficient or inadequate knowledge of underlying power relations can lead to the unintentional favouring of more powerful groups at the expense of the more vulnerable. Information from the situation assessment should provide an analysis of relations among households, local-level institutions and other more immediate structures (local government, market organizations, civil society structures).

In conflict situations, it is particularly important to consider how an intervention might affect social tensions, cohesion and cultural identity. Some interventions can also increase the likelihood of violence (including domestic violence and child abuse) or physical oppression by one individual or group against another.

Gender relations

A crisis can act as a catalyst for changing gender relations either positively or negatively. Women are a key resource in achieving food and nutrition security. The planning process needs explicitly to incorporate the views of women and build on their capacities and technical skills, while recognizing the constraints that they face in terms of resource use and control. Men may find that their previous roles and status as primary income earners are no longer relevant in the new context. The situation assessment should provide an analysis of how gender roles and relations have changed. This analysis needs to be built into the planning of interventions so that contributions and the potential for positive changes are recognized and supported. Efforts need to be made to avoid further marginalization of any group and to ensure that there is equal access to participation in and the benefits from any intervention. Working with women and children on food and

nutrition issues may not be perceived as politically threatening and can provide an entry point for working with other groups.

Security situation

The security situation in conflict situations and physical access during a flood- or earthquake-type of natural disaster will influence the type of intervention. Only certain population groups may be accessible, either because they have moved out of affected areas or because they are in areas accessible to the assistance community. The condition of population groups in inaccessible areas is often not known; but it is still necessary to identify ways of assessing the situation of these groups, and of providing appropriate assistance. Information systems need to be able to monitor key indicators and provide information on the political situation and security conditions.

FAO/23962/M. Linton

Refugees fleeing civil conflict carrying what household belongings and tools they can carry

Further reading and resources

FAO. 1983. *Selecting interventions for nutritional improvement. A manual.* Nutrition in Agriculture No. 3. Rome, Food Policy and Nutrition Division.

FAO. 2001. *Targeting for nutrition improvement. Resources for advancing nutritional well-being.* Rome, Food and Nutrition Division.

Technical briefs

Brief 6. Issues related to targeting in crisis situations

Part V

Nutrition actions in crisis situations

Introduction

This part presents a number of potential actions whose aims range from saving lives to supporting the diversification of people's livelihood mechanisms. These actions are considered against the key screening criteria that were presented in Part IV. The potential actions are assessed for their *relevance* in addressing specific nutrition and food security problems and their *feasibility* in different emergency contexts. The discussion then explains how combining or sequencing interventions can increase their *effectiveness* in protecting and promoting good nutrition in the long term. A combination of food production and/or diversification, health, water and sanitation interventions, together with nutrition education, is ideal for achieving improved nutritional well-being. Examples of indicators for *monitoring* the process and impact of actions are also included.

The potential actions are grouped under the following broad themes:

- Theme I. Food production and diversification
- Theme II. Access to food
- Theme III. Household food utilization
- Theme IV. Health, water and sanitation
- Theme V. Feeding and caring practices
- Theme VI. Community-based growth monitoring and promotion
- Theme VII. Food and nutrition education
- Theme VIII. Training and extension
- Theme IX. Food aid
- Theme X. Information systems

FAO/5054/M. Bracher

A little girl eating a millet kuskus

Theme I. Food production and diversification

Enabling people to produce at least some of their own food is an essential component of any strategy to address food insecurity in acute and chronic crisis situations. However, a combination of support to life-saving and to livelihood-protecting/enhancing activities may be needed for some time following an acute emergency.

Relevance

Wherever and whenever possible, food distribution should be combined with actions designed to improve self-reliant access to food. If an assessment has highlighted food insecurity as a contributory factor to malnutrition, and there are conditions suitable for agriculture and livestock husbandry, it is relevant to support food production and diversification. The activity should be appropriate to the context, introduce incremental change and reflect identified seasonal food shortfalls and nutrient gaps. Actions can aim to increase food diversity through field crop production, horticulture, rearing of poultry or small livestock, cultivation of fruit and nut trees, aquaculture/fishing, small-scale irrigation and the utilization of wild foods.

Box 28: Filling nutrient gaps by increasing food diversity

- Green leafy vegetables and orange/yellow fruits (including orange-coloured sweet potato) supply *vitamin A*. (They need to be consumed with some fat in order to enhance absorption of plant-based pro-vitamin A.).
- Legumes (e.g. soybeans and groundnuts) supply *vegetable proteins* and *fat*.
- Citrus fruit trees supply *vitamin C*.
- Poultry supplies eggs and meat and is a good sources of *animal protein and micronutrients*.
- Oil seeds (e.g. sunflower, sesame and groundnuts) supply *fats and the vitamin B complex*.
- Fish supplies *animal protein and micronutrients*.
- Medicinal plants are useful as *home remedies* for diarrhoea, teething, mouth ulcers and bed sores.

Feasibility

These actions are feasible only where there are reasonable expectations of stability and security. Interventions to promote improved and diversified food production do not imply that other types of emergency support can be completely phased out, especially food aid. General food rations are not calculated to cover the food energy needs that are needed for the physical labour involved in agricultural work.

The following paragraphs outline the aspects that should be considered when assessing the feasibility of interventions aimed at improving food production and diversification.

Access to adequate land and water availability. Access to a sufficient area of land of sufficient quality to produce a family's food requirements can be problematic owing to a number of factors. Resource-poor and single-headed households, IDPs and resettled refugees are more likely to face difficulties. Negotiations need to be conducted with local authorities and host populations to determine possible modalities for providing land for affected populations. The measures should take into account existing population pressure, and landownership and tenure patterns. The resulting arrangements may be formal or informal, each of which has different implications for the choice of intervention. Potential areas for agricultural production need to be assessed in terms of the security situation, the threat of crop theft, the distance between living areas and agricultural land, and the availability of water. Often, these factors mean that only small areas can be cultivated,

so home gardening, homestead fruit tree production (e.g. of rapidly maturing trees such as banana, papaya and guava), poultry or small livestock programmes may be more appropriate than staple crop production. (See Box 29 for examples of gardening activities for displaced people.) Rainfall distribution will influence the feasibility of upland agriculture. However, more intensive vegetable production may be possible around water points, small dams, low-lying permanently damp areas or the margins or wetlands.

Box 29: Cultivation of gardens in crisis situations

In ***Malawi***, refugees from Mozambique who had access to small plots of land and grew vegetables were less likely to suffer from pellagra than those who did not have such access.

In ***Sierra Leone***, people displaced from rural areas to Freetown started vegetable gardening as a means of generating income and diversifying their diets. Women living in conflict areas were supported in vegetable gardening (through seeds, cuttings and tools). They cultivated communal plots of land and worked in groups as protection against individual attacks and rape. They grew mainly roots and tubers such as sweet potatoes, because these were less easily raided than other crops.

In the ***United Republic of Tanzania***, between 1995 and 1997, refugees from Rwanda and Burundi grew many different kinds of staple crops and vegetables and raised livestock inside and around the camps, even though food production was officially prohibited by the Tanzanian Government. Refugees found ways of leasing land from local farmers, for example, by paying them in kind.

In ***Swaziland***, during the 2001–2002 food crisis UNICEF supported communities establishing community/school farms and gardens to grow drought-resistant crops and provide an ongoing supply of food to schools, as well as a base for extension advice and seedlings for the gardens at neighbourhood care points supporting orphans and vulnerable children (OVCs).

Existing natural resource-based livelihood activities. The interventions selected should be adapted to local conditions. Information on the agro-ecological conditions, existing agricultural, fishing and forestry activities, and the production cycle and constraints (pests and diseases) should be available from secondary information, key informants and the situation assessment. It is also necessary to consider the pre-existing cultural practices and preferences of the incoming population group, but this may be difficult if people have been displaced into a very different agro-ecological zone (e.g. a shift from predominantly cassava-adapted areas to cereal-producing ones).

Availability and division of labour. An understanding of the division of labour and labour requirements for different livelihood activities should be incorporated into the choice and planning of interventions. Affected populations often have higher proportions of women, the elderly and children. If virgin land is allocated for agriculture, women may not have access to male labour for clearing, and other arrangements need to be considered (e.g. food-for-work mechanisms, tractor hire, etc.). Women may not have the necessary experience or agronomic knowledge for certain crops. Labour requirements and peak labour periods vary for different agricultural and non-agricultural activities. Comparing the labour requirements of different interventions with daily and seasonal activity calendars for men and women can help identify interventions that will not add to women's existing workloads. A high prevalence of HIV/AIDS may increase labour stress. Potential interventions should therefore be oriented towards non-labour-intensive activities (e.g. cassava production, poultry keeping), improved labour productivity through water harvesting and soil conservation interventions, and the spreading of existing labour peaks.

The location of agricultural activities should also be considered with respect to labour constraints (e.g. home gardens versus upland fields). It may be easier and more appropriate to target women through identifying the types of land that they have access to, and the

FAO/22536/CESPA-Mali

Woman from the fishing cooperative smoking fish on a Chorkhor oven, constructed with Telefood funds

crops, livestock and natural resources that are normally under their control. Women may be more likely to participate in interventions that can be implemented at locations around the homestead, or close to water points, as such activities can be combined with their other responsibilities.

Storage, processing and marketing considerations. When screening potential interventions, the storage, processing and marketing characteristics and trade-offs of the particular crop should be considered. Root and tuber crops may be preferable, because they can be stored in the ground and are less susceptible to looting. However, cassava (for example) requires specific processing techniques to eliminate toxicity. Oilseed production could contribute to raising the energy density of infant weaning foods, and can improve the palatability of family meals; however, there is a need to have knowledge about household- or local-level processing techniques, or to provide suitable technology. Vegetable production is useful for both diversifying household food consumption and generating cash income. However, access to markets and/or knowledge about conservation (e.g. solar drying) is necessary to cope with potential production gluts. Some processing activities may be more appropriate at the area level than the household level. Processing interventions should also consider the needs of households that face labour constraints or have housebound members, for example, HIV/AIDS-affected households.

Input requirements. One of the most widespread rehabilitation interventions is the distribution of seeds, hand tools and, where appropriate, pesticides, fertilizers and animal health inputs. However, to make use of these inputs, households must also have enough food (e.g. from a general ration). Without the protection of a general ration, households may be forced to eat the seed, sell the agricultural inputs to buy food, or work on other people's farms or on food-for-work schemes at the expense of cultivating their own fields. Interventions that depend on the continuation of external inputs are unlikely to be sustainable. Input supply should be tied to a revolving or payback mechanism, and the provision of support to local small-scale traders who can continue to market inputs in the longer term. In areas with high HIV/AIDS prevalence it may be appropriate to promote low-input agricultural systems to minimize the expenditure for households that are already under economic stress.

If seed distribution is being considered, it is important to understand the existing practices and mechanisms for seed multiplication, conservation and distribution, and how these can be supported and strengthened. Examples of this could be the use of "quality declared" rather than "certified" seed, and supporting local purchase and marketing mechanisms through seed fairs or seed voucher systems.

Inputs for other livelihood activities might include the establishment of mother tree nurseries, the provision of fishing equipment, the restocking of small livestock, and access to craft materials, beehives, etc. Box 30 gives examples of different types of support to fishers, but these have no explicit link to nutrition.

Box 30: Diversified livelihoods contributing to diversified income and food production

In ***Somalia***, the International Committee of the Red Cross (ICRC) implemented an intervention to address both the immediate and the longer-term food insecurity of vulnerable groups in the Middle Juba Region. In October 2002, the Somali Red Crescent Society (SRCS)/ICRC distributed food for seed protection to 2 500 families. The food consisted of 30 kg of maize, 10 kg of beans and 5 kg of oil. At the same time, maize, cowpea and sesame seeds were distributed. As part of a longer-term food security initiative, 4 000 families received fishing kits consisting of twine (for the local manufacture of nets), hooks and monofilament (for lines). Each kit was accompanied by 10 kg of salt for conserving the fish for later consumption by the household and for sale. ICRC will follow this distribution with an extensive training programme aimed at ensuring good fishing methods, fish conservation and marketing. The intervention has been welcomed as timely and highly appropriate.

In ***Mozambique***, in response to the 2000 floods, support to the artisan fishing communities had the following objectives:

- determining the *extent of the damage* that the catastrophe caused to the artisan fishery sector in terms of lost equipment and people affected;
- *replacing* and motorizing a number of lost wooden boats and dugout canoes;
- *supervising and monitoring* the repair of damaged boats, where possible;
- *making available* fishing gear and equipment to service the fishing communities in affected areas;
- creating simple *community-level revolving funds and credit schemes* through which the initial supply of boats and more expensive fishing gear can be organized;
- *raising fishers' awareness* of the need to improve/develop maintenance routines, handle catches appropriately and manage fishing operations for increased income opportunities and higher profitability;
- assisting in the preparation of a follow-up *development project document* addressing artisan fishers' needs for new and innovative fishing gear and techniques, fish preservation and marketing.

Source: FSAU Somalia. 2002. Monthly nutrition update, October 2002; FAO OSRO/MOZ/004/ITA, 2001.

Effectiveness

Interventions aimed at increasing and diversifying agricultural production can be highly effective in contributing to sustained improvements to household food and income sources. This depends on the availability of and access to the basic means of production, favourable climatic conditions, political and military stability, and markets.

The integration of agricultural extension and nutrition education activities will help to ensure that improvements in household food security are translated into nutritional well-being for all members of the family. This is especially important when unfamiliar crops are being promoted.

The distribution of agricultural inputs provides an ideal opportunity for agriculture and nutrition education on the nutritional values of crops, the benefits of producing and consuming a wide variety of foods, and the specific nutritional needs of individuals in the family. Education is more effective when associated with inputs that increase the demand for available information. Gardening can also stimulate the creation of marketing associations, cooperatives and shops. Box 31 describes some examples of how improved food production can translate into improved consumption or benefits for vulnerable households.

Box 31: Linking improving food production to improved consumption

- Community gardens could be introduced in primary and secondary schools, and the foods produced used for school meals or snacks.
- Agricultural interventions targeted at schools could be designed in ways that contribute to keeping orphans or children from HIV/AIDS-affected households in school. The following are some examples of this:
  - School or communal garden produce is used to supplement food in orphan-affected households.
  - The sale of produce and the use of labour credits offsets the costs associated with orphans attending school.
- Demonstration gardens at feeding centres and health centres could focus on crops that are suitable for supplementing the diets of infants, young children and pregnant and lactating women.
- Nutrition education could include the preparation of nutrient-dense complementary and weaning foods, and the promotion of iron-rich meals and foods that are suitable for people with HIV/AIDS-related eating problems (loss of appetite, diarrhoea, mouth ulcers).

Monitoring

- Changes in area under cultivation for specified crops.
- Changes in seed retention.
- Changes in shortfall periods for key foods/nutrients.
- Changes in the frequency of consumption of target foods.
- Changes in the utilization of key foods by different household members.
- Changes in income from sale of products for different household members.

FAO/23432/M. Bleich

Children in an orphanage eating a meal from a communal bowl

Theme II. Access to food

Relevance

For population groups that are dependent on market purchases/exchange for their main source of essential food and non-food items, improving *economic access* to food is particularly relevant in situations where:

- non-agricultural and urban-based livelihood activities and income sources have been affected by the loss or destruction of productive assets or working capital (e.g. sewing machines, bicycles, tools or equipment for craftwork, market stalls, stock);
- households have been dependent on a regular income from formal employment, but the salaried family member has migrated at an earlier stage of the crisis or has become unemployed, or payments have become irregular;
- normal sources of employment have been cut off, or increased competition (e.g. casual daily labour) has forced wage rates down;
- families' purchasing power has diminished through rapid increases or sharp fluctuations in the prices of basic goods and services.

In crisis situations *physical access to markets* may have been disrupted because transport, road infrastructure and market facilities have been damaged, destroyed or mined. Itinerant trading networks can also be affected by the impact of HIV/AIDS, as the high mobility of traders may put them at greater risk of infection.

Feasibility

Petty trading of food and non-food commodities is one of the most common income-generating activities in African countries, and is often practised by women and youths. These activities can restart quickly, especially in situations where food rations are sold to obtain other essential food and non-food items. Small start-up grants or a daily credit system could be established to support activities such as the sale of snack or processed foods or the trading of used clothing.

WFP

Transporting food

Box 32: Examples of actions to promote access to food

Actions aimed at increasing employment and income opportunities

- Technical skills training: handicrafts, brick making, carpentry, tailoring.
- Business skills training: business planning, financial management, accounts, trading laws and regulations, market surveys, product development.
- Small-scale savings, credit or grant schemes for starting up enterprises: e.g. soap making, beekeeping, wood carving, transport, petty trading.
- Services provision: bicycle repair, mechanics, repair of electrical goods, domestic services – collection and sale of water and fuelwood, production of charcoal.
- Processing of agricultural crops and foodstuffs (cassava, sweet potato): grinding, milling, oilseed pressing, fish processing, vegetable drying, blended of weaning/ complementary foods.
- Food-related businesses: training in food safety and quality.

Market interventions (maintaining a stable supply of products)

- Support local-level cooperatives to enable bulk purchase and sale of goods and foods, thus reducing consumer prices.
- Fair price shops.
- Facilitating marketing or commodity boards to purchase key crops when prices are low or from areas of surplus (thus maintaining producer prices), and releasing stocks on to markets in deficit production areas or where prices are rising (thus stabilizing consumer prices).
- Supporting the establishment of small-scale trader associations by developing business skills and access to credit may be an appropriate way of stimulating market linkages, as may providing mechanisms for the supply of inputs and the purchase and storage of surplus production.
- Constructing or rehabilitating physical market structures and transport/ communications infrastructure that have been damaged or destroyed.

The sourcing of new or alternative employment opportunities requires:

- information on the availability of employment;
- small grants to support the initial costs of re-entering the employment market (transport, appropriate clothing, replacement tools);
- identity documents or letters of guarantee, particularly for refugees.

Successful income-generating activities require:

- training/skill support (technical and business management);
- start-up capital and a viable business plan;
- a ready market for the goods or services provided (market feasibility study);
- transportation of the goods to market;
- savings mechanism;
- safe-keeping of cash (informal mobile banking system) and stock (security);
- adherence to formal or informal licence and tax requirements;
- for activities involving the preparation and sale of foodstuffs, adherence to food hygiene regulations.

The following factors should be taken into account when considering the feasibility of a particular intervention:

- In unstable situations, it may be more appropriate to concentrate on training in skill areas that are "mobile" and can be applied or practised after a population has returned to its home area (e.g. business-related skills, management).
- Interventions should take into account the needs of physically vulnerable groups, and consider supporting home-based enterprises or enterprises that do not require physical labour (e.g. electrical repairs).
- Many income-generating activities rely on the availability of raw materials for craft production (mats, baskets), or access to industrial or recycled materials for the production of household utensils, etc. This could lead to the unsustainable utilization of natural resources.

Effectiveness

The development of income-generating activities can increase income levels and purchasing power. However, these do not necessarily translate into improved nutritional well-being. Income generation activities need to be targeted and complemented by other actions, such as the following:

- The income that is earned and controlled by women is more likely to be used for family welfare, and so support for training and establishing small businesses should be appropriate to women's needs.
- Social marketing and communication techniques can be used to link increased purchasing power with appropriate nutritional knowledge to support informed decision-making. An example of this could be protecting existing positive nutrition practices (e.g. breastfeeding) that may be under threat in new situations. Another example is to promote positive behavioural changes, for example diversifying diets in urban areas.

Support to the rehabilitation of market infrastructure and market functioning can be more effective when:

- market facilities are designed to provide water, sanitation, rubbish collection and local meeting/recreation facilities;
- the construction or rehabilitation of market facilities is used as an opportunity to improve the location and access roads and to establish or revitalize a market management committee;
- small-scale traders are supported as the vital link between producers and large-scale merchants.

Box 33: Stimulating market recovery

The floods that hit the Mozambican town of Chokwe in 2000 caused widespread destruction. Those families that had members with salaried occupations, or kinship networks in unaffected areas were able to recover more quickly. In response to demand and purchasing power, informal trading activities resumed rapidly, using porters and canoes where road communications were cut. The use of cash payments to support the reconstruction of houses (as opposed to assistance in kind) was appropriate in places where market activities re-established themselves quickly. This approach supported market functioning, and allowed participants to chose the type of materials used.

Source: Adapted from DEC, 2001.

Monitoring

- Seasonal and annual changes in the market prices of key products and services.
- Shift from trade in locally produced goods to trade in imported goods.
- Changes in income sources and levels for different household members.

FAO/5089/M. Bracher

Fresh fruit and vegetables in a market

Theme III. Household food utilization

Storage

Relevance

In many acute crisis situations, storage issues may not be a priority problem. Households may not be involved in agricultural production, or agricultural surpluses are sold immediately, for example, to meet non-food needs or to avoid the risk of looting. However, in the acute stage of a crisis it is important to provide information and raise awareness about the best methods to store general ration commodities at the household level, particularly blended foods that may contain oil.

After prolonged periods of social and economic upheaval, the local knowledge and skills related to storage technology may have been lost and need to be rediscovered. When unfamiliar crops (e.g. sweet potatoes) or crop varieties with different storage characteristics (e.g. "dent" maize varieties, which have softer kernels than "flint" varieties) are introduced, there is a need to provide farmers with relevant information and access to appropriate storage technology.

During periods of gradual change, improved storage facilities and techniques can help to address problems related to post-harvest losses, wide inter-annual fluctuations in production levels, low food availability during hungry periods, seasonal price fluctuations and the destruction of storage structures through conflict, flood or hurricane damage.

Feasibility

Technical interventions should be based on an analysis of the causes of food losses. Local methods, practices and material for storing different food commodities should be identified, and the positive aspects of these strengthened. Consideration should also be given to crop-specific practices for certain crops, whether men or women are responsible for the storage of specific crops or for specific stages in storage processes (e.g. the production or treatment of foods to be stored), and how seed storage is dealt with.

The level (field, household, village) of storage should be appropriate to the context. The feasibility of village-level stores needs to be carefully assessed in terms of cultural beliefs, management requirements, costs and the strength of local organization.

In order to implement storage interventions successfully, materials, capital (or small grants if necessary) and labour should be available.

Box 34: Examples of storage interventions

- Control of rats by trapping, cats, poison, rat-proofing grain stores.
- Control of insects by the use of natural products (e.g Neem tree), chemical insecticides, sealed food stores and airtight containers.
- Control of fungi and food rot by storage of food in as dry a state as possible and by the use of better containers.
- Support to local potters and basket makers to promote improved traditional storage containers.
- Promotion of safe and hygienic food storage practices in the home.

Effectiveness

Not only can storage interventions be effective in increasing the availability and stability of food supplies, but they can also contribute to improved environmental hygiene around the home through reducing insects, rodents, etc. There may be direct improvements to

health status through reducing the risks of mycotoxin contamination caused by moulds. However, storage interventions need to be cost-effective; it may be cheaper to sell surpluses and purchase later on, rather than invest in improved storage structures.

Activities to improve storage should be integrated with agricultural extension programmes. Training can be provided in the management of local structures, the safe use of chemicals, the identification of fungal contamination, and alternative safe uses for spoiled grains (e.g. animal feed), etc.

Monitoring

- Number of households adopting improved storage technology and practices.
- Increase in the quantity/duration of food crop storage.
- Qualitative perceptions about changes in the quality of stored foodstuffs.

Processing, conservation and preparation

Relevance

All foods need to be processed into a more digestible or palatable form (grain to flour) and/or conserved to prolong shelf-life. Examples include processed roots and tubers, smoked and dried fish, fermented milk, and dried fruits or vegetables (wild and cultivated). Not only does processing extend the availability of these foods and increase dietary diversity, but it can also add value when the products are marketed. Interventions in this area are relevant if:

- new foods that require novel treatment have been introduced, either through a general ration or through people's displacement or resettlement in different farming systems;
- household processing equipment has been left behind or stolen, or is unsuitable for new foods;
- women spend a high proportion of their time processing food (e.g. pounding maize), which could better be spent on child care or other productive activities (e.g. by providing labour-saving technology, village grinding mills);
- vitamin A deficiency is present at certain times of the year, and could be addressed through the preservation of dark-green leafy vegetables or dark orange fruits and vegetables;
- surpluses or gluts of crops are followed by periods of scarcity;
- a lack of cooking fuel creates difficulties in cooking ration commodities such as beans.

Feasibility

The following factors should be considered when assessing the feasibility of interventions:

- women's time and the gender-differentiated use of the proposed technology, including the possibility of its being taken over by men if it proves successful;
- the cultural acceptability of the technology;
- the availability of sufficient materials for constructing the technology;
- the cost (capital and recurrent) of the new technology;
- the level of use (e.g. household, village);
- the availability of products needed for processing (e.g. salt, fuelwood);
- seasonal aspects (e.g. drying is more difficult in the rainy season).

Box 35: Examples of processing, conservation and preparation interventions

- When only limited cooking fuel is available, it may be possible to test and promote fuel-efficient stoves, hay boxes, etc. The manufacture of stoves, pots, etc. could create local employment opportunities.
- Community (host and IDP)-managed woodlots for fuelwood could contribute to satisfying medium- and long-term requirements for cooking fuel. The feasibility of this depends on local land and tree tenure practices.
- Dark-green leafy vegetables can be preserved using solar driers.
- The germination, fermentation and/or malting of grain increases the energy density and digestibility of infant foods; these processes can also increase the niacin and riboflavin contents.

Effectiveness

These types of interventions can improve the use of food products and reduce seasonal fluctuations in micronutrient availability. Some interventions may lead to a reduction in women's labour requirement through the mechanized processing of cereals, or through more efficient or alternative cooking methods that reduce the time needed for collecting fuelwood. Women can use the time saved for more economically productive activities, and for taking care of themselves, young children and other family members. These interventions can also increase the impact of production-oriented interventions such as home gardening.

Monitoring

- Changes in availability and consumption of preserved fruits and vegetables.
- Changes in the time that women spend on key activities (e.g. collecting fuelwood).
- Adoption rates of new technologies (e.g. uptake of fuel-efficient stoves).

Food safety and quality

Relevance

The safety and quality of food can be severely compromised in conditions of overcrowding, inadequate sanitary facilities and social upheaval. This can lead to the contamination of food and water and the risk of food-borne illnesses, diarrhoea and cholera epidemics. Awareness of food safety and quality issues is relevant at all stages of the food chain, from crop, livestock and fisheries production, slaughter, harvesting, storage, marketing and distribution to processing, conservation and utilization within the home, or the sale of cooked foods outside the home.

Interventions in this area are relevant if:

- the handling of food aid commodities does not meet minimum Sphere Standards (e.g. in terms of expiry date, storage conditions and containers);
- there is widespread promotion and use of breastmilk substitutes that do not conform to the International Code of Marketing of Breastmilk Substitutes;
- food is being lost because of inadequate storage facilities (through insects, rodents, mould, microbiological and chemical spoilage, and water damage) and/or inappropriate processing and preservation;
- there is unofficial or informal slaughtering of animals for the sale of meat to the public;
- water storage utensils are lacking or inadequate, which may lead to contamination, poor food hygiene practices and food safety risks;

- there are difficulties in enforcing regulations for the use of agricultural chemicals, and in monitoring levels of pesticide residues in food;
- in flood-affected areas, the water available for use in households or at major food processing/preparation locations (e.g. feeding programmes) is of inadequate quality;
- contaminated water or night soil are used in agricultural operations, which can introduce a risk when fruit or vegetables are eaten raw.

Box 36: Examples of activities to promote food security and quality

- Provision of suitable water and food storage containers in acute crises.
- Water and sanitation provision, and associated public health promotion practices.
- Licensed and supervised abattoirs.
- Training of community public health workers.
- Environmental hygiene measures, e.g. sewage and garbage disposal.
- Promotion of personal health and hygiene practices, and provision of soap in aid packages.
- Information to improve the population's understanding of the dangers of using contaminated water for agricultural purposes, and measures that can be taken to prevent disease.
- Food hygiene training for market/street vendors of raw and prepared foods.
- Competitions for the cleanest street/block/school/market.
- Support to local soap making enterprises.
- Awareness raising and training on international codes of conduct for agency staff and civic leaders.

Feasibility

In conditions of overcrowding and inadequate water and sanitation facilities, safe food preparation and storage and the maintenance of household and personal hygiene become a challenge. Interventions within this context need to be relevant and feasible. Advice and education should be channelled though different media and be linked with the provision of basic equipment or facilities. Different population groups and their leaders need to be involved in developing appropriate messages and mobilizing the wider population for mass sensitization and clean-up campaigns. Adequate conditions for the transport, storage and distribution of food aid commodities need to be in place.

Effectiveness

In order to be effective, food safety and quality issues need to be incorporated into all interventions: from different perspectives (producer and consumer), through different channels (health centres, schools, market places), and at different levels (individual, homes, public spaces). Food safety interventions will be more effective when adequate latrines, water and bathing facilities are provided. The rearing and kraaling of livestock should be separate from human habitations.

Monitoring

- Number of markets with basic hygiene conditions (rubbish collection and disposal, water and latrine provision, etc.).
- Number of water sources satisfying water quality criteria.
- Number of complaints about the physical quality of food aid commodities.
- Quality control of home-produced food products/snacks for sale.
- Number of abattoirs that pass inspections.

Theme IV. Health, water and sanitation

Health provision

Relevance

The interrelationships among inadequate dietary intake, disease and malnutrition were outlined in Part I. Overcrowding, inadequate sanitary conditions and reduced access to health facilities can lead to epidemics and contribute to increased morbidity and mortality rates. Preventive and curative health interventions are particularly relevant if causal analysis has indicated that food insecurity may not be the major determinant of high malnutrition rates. The increasing prevalence of chronic illnesses such as TB and HIV/AIDS also underlines the relevance of preventive and palliative interventions to support local-level responses to these diseases.

Feasibility

The local health infrastructure may have been destroyed by natural events (e.g. floods, hurricanes) or deliberately as a result of war, or it may be chronically underequipped and understaffed. In the acute stage of a crisis, or when there is an imminent threat of an epidemic such as cholera, it may be necessary to bring in national- or international-level medical teams. Temporary and/or mobile curative facilities may be established to stabilize the situation in the short term.

However, it is also important to support the rapid re-establishment of primary health care activities, as these can contribute to building local capacity and will be more sustainable. The conditions necessary to achieve this include:

- a core of trainers-of-trainers to train local-level primary health workers (trained birth attendants [TBAs], nutrition workers, family planning, malaria control workers, voluntary counselling and testing [VCT] and HIV/AIDS peer support groups);
- a reliable supply of basic essential drugs and medical supplies;
- where necessary, incentives or compensation for community health workers (CHWs) (e.g. commission on the sale of drugs/preventive services, local payment in kind, or government, donor or NGO subsidies);
- an effective medical referral system;
- a mechanism to promote integrated linkages among health, agriculture and social development activities at the local level (e.g. a local service centre for community support workers).

Effectiveness

Basic curative and preventive health services can have an impact on nutritional well-being. Management of diarrhoea, immunization campaigns for measles and deworming can contribute to reducing some of the precipitating causes of malnutrition. There is considerable scope for local participation, strengthening the role and status of women, and increasing the impact of other interventions.

Monitoring

- Changes in morbidity rates for specific diseases.
- Changes in immunization coverage.

Box 37: Examples of health interventions

- Diarrhoeal control ("diarrhoea corners").
- Breastfeeding stations to provide support for lactating mothers.
- Malaria prevention and control (e.g. distribution of treated bed nets).
- Immunization campaigns (measles).
- Deworming and public health measures to reduce the transmission of parasites (sanitation, water, kraaling of animals, footwear).
- TB control.
- STD awareness and the promotion of condom use.
- Micronutrient supplementation.
- Personal hygiene for the control of scabies and conjunctivitis.

Water and sanitation provision

Relevance

Improving the quantity and quality of water is a relevant intervention in:

- drought situations where normal water sources have dried up, and people are having to travel longer distances for water;
- flood situations where water sources may have become polluted or inaccessible;
- conflict situations where people are cut off from water sources (minefields, possibility of ambush, etc.);
- in refugee and IDP camps.

The situation assessment and analysis also indicate whether there are outbreaks of water-borne diseases (diarrhoea, typhoid), or a lack of water for personal hygiene has led to an increase in skin infections. In these cases, water and sanitation interventions are appropriate and should be reinforced by environmental hygiene measures (e.g. rubbish collection, clearing drainage channels and mosquito breeding areas) and public health education and promotion.

Feasibility

The hydrological and soil conditions often determine the type of technology that can be used (e.g. boreholes versus shallow hand-dug wells). The location and design of water and sanitation services should meet technical standards (e.g. Sphere) and be discussed with the affected and host populations to ensure access for both groups. Maintenance requirements and access to spare parts etc. should be discussed and negotiated during project design and planning. Group-run maintenance systems and privately operated services each have their own advantages and disadvantages. Local-level contributions could be raised via a sugar/bread/salt tax operated through local shopkeepers or market stall owners. Clear ground rules should be established as to how water sources cater for human, domestic, livestock and agricultural needs.

Effectiveness

Water and sanitation interventions provide the essential conditions that can make primary health care and public health and nutrition education actions more effective. When there is a source of safe water close at hand, the pressures on women's time can be reduced and family members do not fall ill and require additional care and attention.

FAO/G. Bizzarri

A woman pumps water from a community well in Mozambique

Box 38: Examples of water and sanitation interventions

- Establishment or improvement of water points.
- Provision of water storage containers.
- Clothing washing areas, with adequate drainage/utilization of "grey water".
- Bathing shelters.
- Public health education on personal hygiene and storage of water in the home.
- Water point maintenance committees.
- Environmental hygiene committees (waste disposal).
- Water and sanitation provision in schools, markets and public meeting places.
- Water and sanitation public health messages reinforced through different channels.

Monitoring

- Numbers of new/improved water points/latrines, etc.
- Changes in related behavioural practices.
- Number of local groups taking responsibility for environmental management.

Theme V. Feeding and caring practices

Breastfeeding, infant and child feeding practices

Relevance

A situation assessment and analysis should identify existing infant and child feeding knowledge and practices, in order to determine which practices should be protected and which could be improved. The social and economic upheaval in a crisis can contribute to negative nutritional practices, such as reductions in the duration of breastfeeding or early introductions of liquids and foods. In urban contexts, there may be greater exposure to commercially promoted breastmilk substitutes and infant foods. In some situations (e.g. when there are large numbers of orphaned or abandoned babies), the introduction of breastmilk substitutes for babies under six months of age may be justified.

In a population that is dependent on food aid, children of weaning age (from six months) will be vulnerable to malnutrition if traditional feeding practices are poor and/or the general food distribution does not include a locally available blended food suitable for complementary feeding.

Feasibility

Many factors influence infant feeding practices, including tradition, social status, education, income level, and peer pressure. Positive breastfeeding practices can be protected through promotion campaigns that acknowledge specific constraints. It may be necessary to supply an additional or special ration for lactating women. Mother- and baby-friendly spaces (e.g. breastfeeding stations) can be provided with counselling support from peer mothers. If necessary (e.g. for orphaned/abandoned babies), breastmilk substitutes should be provided under close support and supervision and in line with the international code on breastmilk substitutes. WHO recommends that HIV-positive mothers avoid breastfeeding if replacement feeding from birth is acceptable, feasible, affordable, sustainable and safe (AFASS). If these conditions are not met, then it is recommended that HIV-positive mothers practise exclusive breastfeeding for the first six months of life (WHO, 2004. *What are the options? Using formative research to adapt global recommendations on HIV and infant feeding to the local context*). This places demands on the provision of services and information to mothers or care takers so that they can make informed choices, and requires additional support and counselling staff.

The design and implementation of interventions to promote improved complementary feeding (from six months of age, in addition to breastfeeding) should take the following issues into account:

- Complementary food mixes should be based on locally available foods, and should require only small modifications to the family diet.
- Recipes need to be developed and pre-tested with different groups of mothers (poor, better-off, different religious or ethnic backgrounds). Ingredients should reflect the seasonal availability of foods, and additional time, water, fuel and other resource requirements should be considered carefully.
- Complementary food mixes should be checked for nutrient density. If germination or fermentation techniques already exist, these should be encouraged to improve the digestibility and reduce the bulk of porridges. These methods also reduce phytic acid levels in wholegrain cereal flours, which can inhibit calcium and iron utilization.
- Depending on context (access to group facilities, the cultural acceptability of common food preparation), feeding centres or group kitchens could be utilized for preparing complementary food mixes as an income generation activity for elderly or partially disabled people.

- The use of complementary foods should be integrated with the promotion of breastfeeding to avoid the substitution of breastmilk in the first year after birth.
- If a blended food is included in the general ration or through supplementary feeding programmes, practical nutrition information needs to be given and demonstration sessions organized so that mothers can learn how to prepare and feed the blended food appropriately.

Effectiveness

The promotion of breastfeeding is a very effective way of protecting infant health and nutritional status in areas where the water supply and environmental conditions are poor. Breastfeeding also enhances family planning efforts. In crisis situations, the promotion of breastfeeding needs to be complemented by strict enforcement of the International Code on Breast Milk Substitutes, and clear guidelines on the disposal of unwanted or inappropriate donations.

Complementary feeding interventions can have a high impact on the prevalence of moderate and severe malnutrition. Improved child health resulting from enriching or supplementing the local diet for young children will also benefit mothers/care takers, who will have to spend less time caring for sick children. The production and sale of local complementary foods can provide an income-generating activity for individual women or groups. Nutrition education and communication, together with information on food hygiene are essential components of a programme for developing and promoting complementary foods. Mothers and care takers also need to be able to discuss their concerns about the introduction of new foods and the potential attendant risks. Promoting improved infant feeding interventions can be matched with agricultural extension for the cultivation of appropriate crops, and nutrition education. This will require the training of respected women, TBAs and others at the local level in order to promote the specific crops and new practices.

Monitoring

- Duration of exclusive breastfeeding period.
- Age at introduction of complementary foods.
- Increased knowledge and practice of appropriate complementary food preparation (both of blended foods distributed as part of a general ration and of locally available foods).
- Reduced malnutrition in children receiving complementary foods (from six months).
- Availability of local complementary food products in the market.

Women's status and socially vulnerable groups

Relevance

In many crisis situations there are periods of prolonged stress, conflict, family separation and the breakdown of social and kin networks. Identifying and promoting local-level and family mechanisms that recognize and support women's responsibilities and status and the care-related needs of socially vulnerable groups helps to ensure that that there is no further erosion of human rights.

Feasibility

These types of interventions are often given low priority in the acute stage of a crisis, which may be the time when women and young girls are most vulnerable because of social upheaval, family separation and living in unknown and uncertain environments.

Relief commodity distribution mechanisms and public facilities (water, latrines) should be designed to be safe for women and to enable access for people with disabilities (location of facility, timing of distributions). Physical structures may be needed to provide woman- and child-friendly spaces. Civic awareness campaigns may be needed to provide information on rights, and reporting procedures for confidential referral and accountability if these rights are violated. These types of interventions require training and skills (counselling, psycho-social, protection and legal), which are often overlooked.

Box 39: Examples of interventions to support caring and social networks

- Family tracing services.
- Information on rights and services available.
- Drop-in centres.
- Woman- and child-friendly spaces.
- Neutral community spaces where elders can meet for conflict resolution.
- Peace days in Sierra Leone.
- Support groups for people living with HIV/AIDS (PLWHA).
- Support and care for orphans and vulnerable children.

Effectiveness

Support to the strengthening or re-establishment of social capital and networks will enhance the impact of interventions that address physical needs.

Monitoring

- Institutional analysis: changes in perceptions of importance and functioning of informal and formal institutions.
- Qualitative assessments of social capital and claims networks.

The chronically ill and people living with HIV/AIDS

Relevance

Crisis situations may increase the susceptibility to HIV infection through increased mobility, the adoption of risky livelihood choices, the deliberate use of rape as a weapon of conflict, and increased gender-based violence. Food insecurity and poor nutritional status also accelerate the progression from HIV infection to symptomatic AIDS. Some population groups may have been relatively isolated during a conflict, and the post-conflict context may lead to increased contact with population groups that have higher HIV prevalence. Relief operations increase the potential for transmitting HIV infection through the influx of relief and logistics personnel with disposable incomes, and through the abuse of relief commodities in exchange for sexual services. However, relief operations also provide an opportunity to implement a wide range of prevention, treatment, care and mitigation interventions for different target groups.

Feasibility

Food security and nutrition actions have a key role to play in all aspects of HIV/AIDS initiatives. The implementation strategy should depend on the HIV prevalence levels (where known), the stage in evolution of the HIV/AIDS crisis, and cultural and religious characteristics of the population groups affected. Food and nutrition interventions for HIV/AIDS-affected populations should be planned, taking into account HIV/AIDS activities and potential partners in other sectors. Rather than establishing parallel interventions for HIV/AIDS, it may be more appropriate to ensure that HIV/AIDS considerations are mainstreamed into all interventions by applying an HIV/AIDS "lens" to ongoing

or proposed activities. This involves asking whether the objective of an intervention is still attainable in an AIDS context (e.g. how will the implementation of extension and nutrition education programmes be affected by increased morbidity and mortality among community-based workers?) and whether a proposed intervention is relevant and appropriate in the HIV/AIDS context (e.g. what are the labour implications for a proposed intervention?).

Effectiveness

HIV/AIDS awareness and sensitization activities are increasingly being included in relief operations (e.g. theatre groups during food distributions); however, it is more difficult to ensure that increased awareness leads to behaviour change. In order to achieve behaviour change, HIV/AIDS initiatives need to address four aspects – prevention, treatment, care and mitigation – through partnerships among different government departments or organizations, and synergies among interventions. It is only by offering hope and improved quality of life through treatment, supportive care and legal rights that the stigma attached to HIV infection can be reduced and people become motivated to take responsibility for their own actions and well-being.

Box 40: Examples of promoting food and nutrition actions in the HIV/AIDS context

- *Nutritional support and care.* Promoting awareness and the means to adopt a healthy diet, balanced nutrition and lifestyle that are crucial for slowing down the progression from HIV infection to symptomatic AIDS and for ensuring that ARV treatment is as effective as possible.
- *Home-based care programmes* offer an opportunity to provide nutritional support and counselling for AIDS patients, e.g. special eating needs for people with HIV/AIDS, protecting the quality and safety of food in the home.
- *Coping with the complications of HIV/AIDS*, e.g. diarrhoea, lack of appetite, nausea and vomiting, mouth ulcers, digestive problems.
- *Promoting local herbal treatments and remedies* through the establishment of demonstrations (in pots, small plots) at health centres, schools and religious meeting places.
- *Nutrition education and communication in schools* can promote healthy nutrition and lifestyle decision-making and actions.
- *Agricultural production and diversification activities* can consider the labour implications of different technologies and crops; for example, conservation agriculture practices can promote more efficient use of water and fertilizers, spread labour peaks, and reduce labour requirements.
- *Market opening times and licensing hours* can be changed or reduced to discourage exposure to high-risk environments.
- *Positive living clubs* can be established to provide support and develop new peer-acceptable social identities and practices in HIV/AIDS contexts.

Monitoring

- Registration and take-up for home-based care programmes.
- Weight gain/maintenance among AIDS patients.
- Behaviour changes and healthy living decision-making for different target groups.

Theme VI. Community-based growth monitoring and promotion

Relevance

Community-based growth monitoring and promotion (CbGMP) activities are relevant where there is low awareness of the causes of malnutrition and where families do not have the necessary information to help them protect and promote their children's health. Growth monitoring refers to weighing a child (from birth through the first two, three or five years of life) and recording the weight on a growth chart. Because weighing and charting alone cannot improve growth, promotional activities are also needed. These include counselling and action to improve child growth. CbGMP activities can provide an entry point for households and local groups to use the information on child growth to guide activities that address the problems identified. CbGMP is a relevant complementary activity for many of the actions and interventions described in Part IV.

Feasibility

CbGMP requires a situation that is relatively stable and not an emergency. Developments need to be under way such that people have begun to improve and reconstruct their own lives. Growth promotion requires trained people at the local level with proper support, some basic guidelines and sufficient time with families. Community growth promoters (CGPs) are usually experienced and respected mothers (and occasionally fathers), or parents who have successfully managed the rehabilitation of a malnourished child. CGPs need to know how to weigh children, record data and counsel mothers.

CGPs require supervision from the local clinic nurse or health worker, or the nearest hospital nutritionist. They decide whether weight gains are adequate or not, and counsel mothers – congratulating them on healthy children or advising them on feeding and the next steps to follow. They also help facilitate and support actions at the family and community levels to address specific problems.

A suitable structure to function as a weighing post needs to be identified or built, and measuring equipment and record books provided. A sufficient number of CGPs need to be trained, so that the time volunteered by one individual does not infringe on their other responsibilities. While CGPs usually work on a voluntary basis, some recognition of their contribution may be required (e.g. t-shirts, hats, etc.). There should also be a system for referring sick children to health services.

Effectiveness

Growth promotion can be particularly useful when it is employed in decision-making about:

- recommendations for individual children's care (particularly related to illness and feeding, but also to cognitive and motor development);
- activity plans for the community that aim to make it easier for families to maintain the growth of their children, for example, by addressing problems of food shortages, lack of and/or unsafe water, and collective child care needs that affect more than a single household;
- programme activities to bolster community actions that affect households with special needs, such as income-generating or transfer schemes.

Box 41: The growth promotion package

1. Regular assessment of child growth:

- Weighing the child – monthly for the first two years of life.
- Usually done by recording the weight for the age of the child on a growth curve.
- Determining the adequacy of weight gain or the velocity of growth between visits.

2. Decision-making and action needed for the child:

- Talking with the mother or other care takers to determine the causes of problems or the reasons for success over the past month.
- Referral to available services and tailoring the counselling to fit the individual case.
- Defining the next steps and when to return.

3. Community- and programme-level decision-making and action to integrate and target services and resources in order to motivate and enhance actions in the household.

4. Follow-up/feedback on the effects of the action:

- Household level – child.
- Community/programme level – all children.

Source: Griffiths, Dickin and Favin, 1996.

Local-level ownership and responsibility are essential. Growth monitoring data should be presented and discussed at a local-level forum so as to contribute to increasing pride and accountability for the well-being of all children in the community. Horizontal integration with other local-level initiatives will help communities to identify and implement actions that give them the highest gains in nutrition indicators. A reliable referral and supervision system needs to be in place to ensure medical treatment for children where necessary and to provide on-the-job training, supervision and encouragement to the CGPs.

In situations where the full package (see Box 41) cannot be implemented, the problem solving nature of the process should not be abandoned, because that is what makes the approach more effective. In these cases, innovation may be required in the design of the weight assessment, decision-making and action package, or in the infrastructure for its implementation. Innovations that could be considered include:

- using indicators other than weight (e.g. presence of illness, extreme thinness, recuperation from illness) to identify children of different ages for special attention and tailored advice when weight-for-age monitoring is being introduced; this will help workers to solve problems;
- restructuring workers' time or developing tools that allow for more and better counselling and community problem solving sessions;
- mobilizing community support, such as using unconventional cadres of workers (youths, teachers or others) to help the appointed worker with growth promotion activities.

Monitoring

- Under-five attendance at CbGMP sessions.
- Adequacy of growth as an indicator of state of health.
- Improvements in behaviour (e.g. child feeding).
- Presentation of results at local-level meetings.
- Local-level initiatives to address the underlying causes of poor child growth.

FAO/22113/J. Koelen

A farmer drying the onion harvest

Theme VII. Food and nutrition education

Relevance

Food and nutrition education plays a vital role in protecting and promoting household food security and nutrition. In relatively normal times, but also in situations of scarcity, it is essential that people know how best to make use of limited resources to acquire a variety of safe and good-quality foods to ensure nutritional well-being. Adequate knowledge of what constitutes an appropriate diet, as well as the skills and motivation to practise good care and feeding practices, are vital for households' survival, especially during times of crisis. Learning how to make optimal use of the foods available, including local foods and unfamiliar relief rations, and practising healthy eating patterns are essential skills that can help households and individuals meet their nutritional needs.

Nutrition education involves a combination of activities, including providing information, increasing people's knowledge of why specific foods and feeding practices are beneficial (e.g. exclusive breastfeeding up to six months, the introduction of complementary foods from six months onwards, feeding young children frequently, giving young children their own cups and spoons, feeding them separately from the family and other children so that they get their fair share, feeding actively by giving children preference in feeding, etc.), which influences their attitudes and beliefs (e.g. low value placed on vegetables, high value placed on meat), helps them to develop personal skills (e.g. preparing an energy-dense complementary food, learning how to feed a child actively) and motivates and supports them to adopt healthy eating practices (e.g. forming mothers' support groups, providing information sessions for mothers on child feeding at monthly growth monitoring and promotion sessions, following up with mothers at home for individual support and counselling). Nutrition education also involves influencing public policy and promoting access to a variety of nutritious foods that are rich in macro- and micronutrients.

Once an assessment has indicated that malnutrition or nutrition-related problems might be partly attributed to lack of knowledge, traditional beliefs and/or harmful nutritional care and feeding practices, nutrition education becomes an essential element of comprehensive food security and nutrition programmes. Nutrition education is especially important if wider livelihood and food security interventions that increase food and income availability are to translate into improved nutritional well-being. An assessment will contribute to a good understanding of the factors affecting food and nutrition security, so that nutrition education interventions can be designed to be relevant to the conditions in which families find themselves. For example, in an emergency, lack of fuelwood may be a more immediate constraint than lack of food itself. In this case, the most useful information would relate to constructing fuel-efficient stoves. In crisis situations, nutrition knowledge and skills are a mobile asset that displaced individuals or families can use when they return to their areas of origin.

Feasibility

The development of a nutrition education and communication programme will need to call on the skills of adult education specialists and social communication/marketing experts, as well as nutritionists, agriculturists, etc. Prior to the development of nutrition education messages and materials, it will be necessary to prepare an inventory of already existing resources and materials, including studies on people's perceptions, knowledge, attitudes and practices.

Successful implementation of nutrition education and communication must consider the technical content and concept of the message; the target group/s, communication channels and tools; and the development of training materials and visual aids.

Message development. The messages and training material should be:

- based on an assessment of knowledge, attitudes, perceptions and practices/ behaviours, and reflect the community's priority nutrition issues;[4]
- adapted to the age, sex and status of programme participants;
- pre-tested for practicability and acceptability among proposed programme participants;
- in harmony with messages from other sources;
- appropriate to the needs of the household, and the constraints under which it operates.

Advice will rarely be put into practice if, by doing so:

- the capacity of the family to earn money would be reduced;
- it would leave less money for other basic needs.

Box 42: Common themes for nutrition and health education in relief and rehabilitation

- Improved food hygiene.
- Prevention and treatment of diarrhoea.
- Promotion of exclusive breastfeeding for the first six months of life.
- Dietary needs throughout the life cycle: pregnant and lactating women, infants, the elderly.
- Micronutrients: their importance and deficiency-related diseases.
- Recognizing malnutrition, its causes and home treatment.
- Making the best use of rations (preparation, efficient use of fuelwood, soaking beans).
- Food storage, processing and preparation.
- Complementary food preparation using seasonally available foods.
- Nutritional well-being of the chronically sick (weight loss, loss of appetite, diarrhoea, mouth ulcers).
- Unfamiliar and new foods.
- Promoting the value and utilization of wild foods.

Communication channels. People communicate best with others of their own area, age and social class. Agricultural extension and health workers, teachers, youth leaders and other interested and influential local individuals need to be trained to pass on appropriate knowledge and skills and to counsel people with specific problems. If the entire extension and health system has been disrupted, local groups should select people to receive basic training in health and nutrition and communication skills.

The communication mechanism depends on the context and cultural preferences and on how people normally receive/obtain information. Mechanisms could include group discussions, role-play, drama, demonstrations, practical sessions, newsletters, posters, radio/TV slots and videos, and songs. In refugee or IDP camps there may be more opportunities at on-site feeding sessions or central locations, such as food distribution sites or water collection areas. With more dispersed populations, social or religious spaces and events may be more appropriate opportunities for nutrition and health information to be passed on to mothers or care takers. One-to-one counselling works well during home visits or at health centres when problems of a sensitive nature (e.g. family planning,

[4] Priority nutrition and health issues will change during the evolution of a crisis and will also differ by season.

FAO/23898/D. Minkoh

Women pounding grain

voluntary counselling and testing for HIV/AIDS) that affect a particular family or its child can be discussed, and help and advice offered. Food and nutrition education can also be included in school curricula. Non-formal education programmes (e.g. literacy classes, youth and women's groups) are also potential channels for providing nutrition and health education.

Both adults and children can easily lose interest, so communication methods should be as visual, interactive and participatory as possible. Mothers, care takers, grandparents and older siblings should be actively involved in education and practical sessions on health, hygiene, food preparation and complementary feeding. This is also an opportunity for them to contribute their own knowledge and skills. They should have a chance to practise their new knowledge and skills, and exchange experiences so that they are motivated to learn and continue to practise what they have learned.

Effectiveness

It is difficult to separate the impacts of nutrition education and communication from those of other components, such as health care or supplementary feeding. However, in order to be effective, nutrition education should be linked with the means to adapt or adopt new practices; for example, nutrition advice about eating certain foods is supported by advice on how to plant, protect, store, process and prepare those foods. In urban situations, foods should be available in local markets and be affordable to the target group. Nutrition education or advocacy with decision-makers (government policy-makers, local leadership, the donor community, NGO managers) is also crucial in providing an enabling political, policy and economic environment and the cross-sector linkages that are necessary for ensuring successful interventions.

There are many opportunities for linking nutrition education to other activities, for example, in on-site feeding programmes, supplementary and general ration distributions, community-based therapeutic care programmes, growth monitoring and promotion, training in home gardening, and community poultry raising.

Although many of the themes covered by nutrition education relate to women's activities, men should be invited to join in. This raises men's nutrition knowledge and wins their enthusiasm and support for improving practices at the household level. Within schools and youth clubs, home economics and nutrition/health education should be given to boys as well as girls.

Box 43: A case study from Somalia: home gardening in an emergency context – Shabelle and Juba valleys in Bay Region

The objective of the Home Gardening for Urgent Improvement of Food Security and Nutrition project was to assist 15 000 of the most vulnerable households to establish small-scale vegetable gardens to increase the availability of high-quality food at the household level, diversify the diet through increased vegetable consumption, increase nutrition knowledge, and improve the nutritional status of the community in general – and of women, children and youth in particular – in the villages targeted by the project. The four key activities undertaken were:

- identification of beneficiaries;
- procurement and distribution of seeds and tools;
- preparation of training and educational material;
- training of field workers and beneficiaries.

The project was viewed as a success based on observations of the number of vegetable nurseries in some villages and interviews with women who acknowledged the importance of including vegetables in their diets.

The following are some of the lessons learned from this experience:

- More time is needed for the training of beneficiaries and field workers. For future interventions, it is recommended that regular follow-up activities be carried out to maintain the motivation and interest of field workers.
- Promoting changes in behaviour requires that messages are delivered through as many channels as possible. During the project, primary school teachers from the Lower Shabelle region were trained, and a classroom nutrition guide for teachers was developed. This is now being incorporated into a Somali schoolbook as part of a United Nations Educational, Scientific and Cultural Organization (UNESCO) programme.
- The establishment of school gardens and demonstration plots in health centres is another possibility for the further promotion of vegetable consumption.
- Although the prevailing fragile security situation poses challenges, project monitoring activities and impact assessment should be strengthened.

Source: Hinrichs, Maccoll and Vliegen, 2001.

Nutrition education and communication will be more effective if they are reinforced by the use of different channels and the adaptation of messages for different target groups. The exchange of information and knowledge between host and displaced populations can often result in rapid changes of positive practices.

Monitoring

- Knowledge and behaviour changes related to specific nutrition and public health topics.
- Trends in morbidity for key diseases.
- Trends in nutritional status.

Theme VIII. Training and extension

Relevance

Training of trainers and support to government extension services (where these are still functioning) are important interventions to ensure that there is technical backstopping, referral and supervision of local-level workers. Training can also play a key role in developing a common understanding of the multisectoral nature of food security and nutrition problems.

Feasibility

Activities related to the training of trainers and extension workers should be part of an overall capacity building strategy. Training needs should have been prioritized in relation to the key food and nutrition problems that were identified in the situation assessment. Training materials and training formats need to be adapted or developed to reflect the language and cultural characteristics of the situation. Training interventions need to be based on:

- a trained core of staff to train local-level workers;
- appropriate technologies and messages;
- participatory approaches.

Effectiveness

Training should provide extension workers with basic concepts related to food security and nutrition, and an understanding of the roles of different disciplines in addressing problems and improving nutritional well-being. The following are some examples:

- Training of agricultural extension workers needs to include basic nutrition issues so that farmers are aware of the nutritional importance of producing certain foods.
- The role of home agents and female community workers, which tends to focus on food preservation, cooking and home crafts, should be expanded through training to include horticultural production techniques and basic nutrition concepts.

This contributes to closer links among local-level health, education and agricultural extension work, and ensures that nutrition interventions complement and reinforce each other. Teamwork can be promoted through participation in joint problem analysis, needs assessment, etc.

In recent years, increased attention has been given to the integration of agriculture assistance, nutrition rehabilitation and nutrition education and training. Women bringing their children to the nutrition rehabilitation facilities are provided with basic training on crop production and agricultural inputs for when they return to their communities. This has resulted in decreased readmission rates of the children attending these facilities. The self-targeting modality of such projects makes them an interesting model for replication and diversification.

FAO/22210/E. Eliah

Extension trainers teach crop planting techniques such as plant spacing and other methods for improving crop production and nutrition to Burundian refugees in a camp in Western Tanzania

Box 44: A case study from Burundi: integrated nutrition and agriculture interventions

An FAO–Dutch-funded emergency integrated nutrition–agriculture intervention in western Burundi assisted families with children in the supplementary feeding (SF) programme. Some 2 300 women were organized into groups, trained in vegetable production for both home consumption and income generation, and given basic nutrition education (including cooking demonstrations). Varieties were selected according to their nutritional value and/or marketing potential (tomato, carrots, cabbage, onion, eggplants, amaranth, groundnuts and soybeans). Local varieties, such as lenga lenga, were also produced. When children were discharged from the SF programme, they were given seeds and tools to use at home.

Nutrition training was also given to the communal agronomists who set up demonstration gardens at the health centres. This participatory training helped them to understand the links between agriculture and nutrition. This initial activity led to further diversification of food security activities, including small livestock raising, agroforestry and microfinance.

For this kind of training to take place and be effective there should be the political will to overcome institutional specializations, enough time allocated for joint training and fieldwork, and a focal point for coordination. Training will be more effective and sustainable if a formal training institution can accredit the courses. Training of trainers needs to be reinforced by appropriate supervision, as well as the conditions and resources that allow training to continue and activities to be implemented.

Monitoring

- Sectoral training material incorporates a holistic view of food and nutrition security.
- Sectoral extension activities incorporate both production and consumption aspects.
- There are joint multisectoral training and field activities.

Theme IX. Food aid

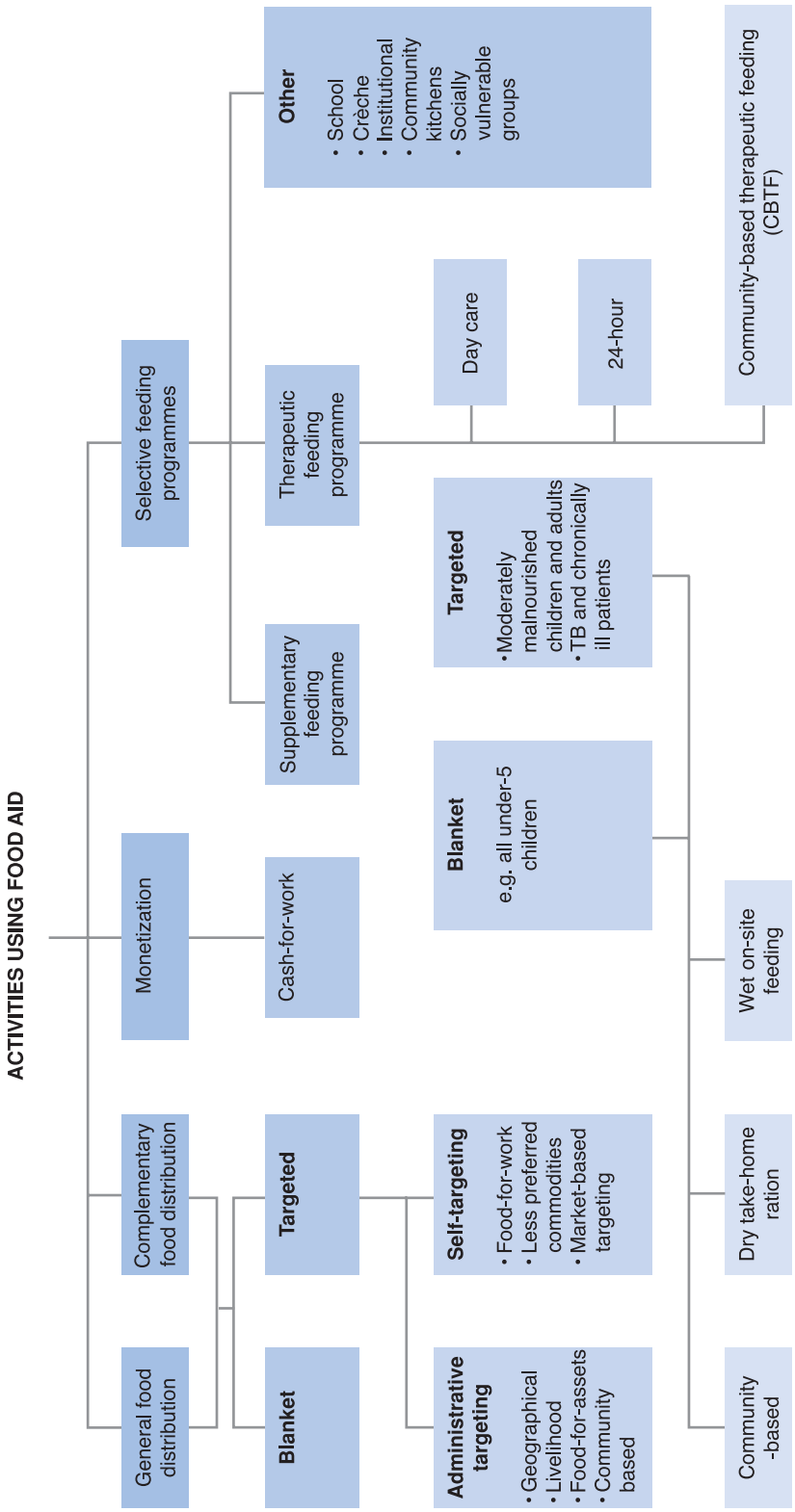
In acute crises, the most essential and life-saving response to a situation of existing or threatened food scarcity or malnutrition is to provide food aid in the form of general distributions and/or selective feeding programmes. However, food aid must be part of an overall response – nutritional status will not be protected without meeting other basic needs, especially shelter, clean water, sanitation and an adequate caring environment.

Food aid interventions should not be limited to addressing immediate needs, but can be designed to ensure the transition from short- to longer-term approaches to assistance. Targeted food distributions may be appropriate at an earlier stage to protect livelihoods when coping mechanisms are under stress and people are selling productive assets such as livestock in order to obtain food. In some situations, the food donor and recipient government agree that food aid be "monetized" and the proceeds used to invest in mutually agreed programmes. Figure 4 shows the possible uses of food aid in crisis situations.

FAO/G. Bizzarri

Off-loading food supplies

Figure 4: Uses of food aid in crisis situations



General and complementary food ration distribution

Relevance

A general food distribution can be part of an appropriate response to protect lives when people have suddenly been cut off from their normal means of access to food. This can happen, for example, when agricultural production has failed through drought or floods, or when people have involuntarily left their homes and become IDPs or refugees. A targeted general food distribution may be relevant when there is the danger that households begin to sell their productive assets in order to obtain food. A complementary food ration is appropriate when households have adequate access to staple foods, but have shortfalls in protein-rich, energy-dense foods and/or micronutrients.

In situations where people have very limited or no access to food, *nutritional considerations* are most important in deciding the size and content of the ration. In the first stages of an emergency, the priority should be to provide a sufficient supply of the basic commodities that provide an adequate subsistence diet (staples, edible oils and fats, protein-rich food such as pulses and salt). Where the population has no access to complementary foods (sugar, fresh vegetables and fruit, or blended vitamin-enriched foods) some or all of these should also be provided, as they supply additional nutrients and increase the palatability of meals. Iodized salt and culturally important condiments should be included if the population has no alternative access to these items. In the past, priority was given to supplying the minimum energy value when planning the ration. However, while energy is the first aspect to consider, it is only one of the essential nutrients. Where people (e.g. refugees and IDPs) are totally dependent on relief commodities, they may be at risk of micronutrient deficiencies (vitamin A deficiency, anaemia, iodine deficiency diseases, beriberi, pellagra, scurvy). While these nutrient deficiencies may be avoided by providing a diverse food basket, it may also be necessary to consider fortifying certain food products (e.g. cereals, blended foods).

In situations of food scarcity where people are selling productive assets, *economic considerations* are most important in deciding the make up and quantity of the ration. In such cases, where food aid is being provided as economic support to households, its transfer value rather than its nutritional value is important. The transfer value is how much it would cost to buy an equivalent amount of food on the market, and/or how much money it would raise if it was sold.

Pastoralists are one of the groups for whom food aid can play a valuable role in sustaining livelihoods. There is a minimum herd composition and size below which a herd cannot recover, even if pasture conditions become ideal. The provision of food aid, combined with livestock health and feed inputs, can avoid the need to sell livestock and can maintain the status of the herd to enable rapid recovery. Targeted food aid distributions can also be used to support households in their place of origin. This is preferable to waiting for a situation to deteriorate until family members are forced to adopt abnormal migration practices in search of employment, pastures, water, etc.

Feasibility

Once the content and size of the food aid ration have been determined on the basis of the affected population's situation and the available resources, other aspects need to be considered. The proposed ration should be assessed in terms of dietary quality, variety, safety and cultural acceptability. There must also be facilities for processing and cooking the food commodities.

The principle food aid donors/agencies (WFP, the United States Agency for International Development [USAID], the European Union [EU], ICRC often work with and/or through

implementing partners (international and national NGOs) to distribute and monitor the use of food rations. This requires considerable financial, logistical, administrative and personnel resources to ensure that food distributions are timely and reach targeted populations, and that losses through spoilage and leakages are kept to a minimum.

Access conditions (isolation, transport and communication infrastructure, seasonal factors and the security situation) can influence the feasibility of a food distribution operation. Pressures in the awarding of transport contracts and the danger of food aid deliveries being hijacked or diverted are additional factors that may be present in conflict situations.

Effectiveness

Food aid needs to be used with caution, as it is expensive compared with other interventions and can have many drawbacks. Except in the most extreme emergencies, it is always difficult to decide whether to provide free food aid and, if so, how much to provide. If needs are underestimated, increased malnutrition and/or further loss of livelihoods may result, while if needs are overestimated, the prevailing negative consequences of food aid will be intensified. Local and regional purchases should be promoted as sources of food aid. This can act as an incentive for local production, marketing and development. The negative effects of food aid are to some extent unavoidable, even when food aid provision accurately corresponds to needs.

Box 45 gives examples of ways to avoid or minimize these effects. The important criterion for the use and continuation of free food aid distribution is that its benefits should greatly outweigh the disadvantages.

Box 45: The negative consequences of food aid and ways of minimizing them

- Depression of food prices in local markets, affecting local livelihoods:
  - Buy food for distribution from local markets.
- Intercommunity conflict when food aid is targeted; friction between the agency and the community:
  - Involve communities in the selection of targeting methods and other aspects of food distribution.
- Hijacking of food for political purposes (e.g. feeding armies):
  - Use a food commodity that only the most needy will find desirable.
- Households outside the immediate area leave their homes in order to be close to sources of aid:
  - Spread information about targeting criteria before aid distribution starts.
- Change of attitudes and creation of unrealistic expectations; hindrance of traditional coping strategies:
  - Limit to the absolute minimum the time that free food aid is distributed, and replace it with other forms of aid if necessary.
- Friction between refugees or IDPs and local populations:
  - Make sure that local leaders are informed at all stages about the aid, and include the most vulnerable of the host population in assistance interventions.
- The market becomes flooded with food aid commodities, prices tumble and the food loses its economic value:
  - Target food aid as much as possible.
- Reduced demand for local farmers' produce:
  - Choose commodities that will not compete directly with local production, or else purchase commodities in local markets.

The distribution of general food rations should be accompanied by information concerning quantities, the contents of the rations, the number of individuals and period of time that they should cover, and how best to use the commodities. There should also be discussions

with local leaders and representatives (particularly women) about the expected duration of general food distributions and the overall planning, management, distribution and monitoring of food aid distributions. These discussions provide an opportunity to identify options for the transition to more sustainable forms of support.

Monitoring

- The quantities, content and timeliness of ration distributions (with special attention to groups that may be discriminated against).
- Ration use within the household (food, animal feed, production of alcohol, sale).
- Changes in the availability and prices of ration commodities in local markets.
- Changes in crisis strategies (abnormal migration, sale of assets, begging/destitution).
- Changes in child and adult malnutrition rates.

Selective feeding programmes[5]

Relevance

Supplementary feeding programmes[6] (SFPs) are needed if an assessment has identified the following conditions:

- People have very little or no access to food; for example, they have recently fled from their homes and become displaced in their own or a neighbouring country, and there is a malnutrition rate of 10 percent or more among children under five years.
- There is some access to food, but the home diet is not sufficient to meet the needs of all members, including the extra needs of pregnancy, lactation and child growth; the malnutrition rate is 5 to 9 percent, but there are aggravating factors such as poor food availability, inadequate shelter and the threat of disease.

The objective of SFPs is to promote growth and prevent severe malnutrition. SFPs are inappropriate if the cause of malnutrition is not lack of food. They can divert attention and resources away from pressing priorities that would have a more sustainable impact on nutrition and health, such as immunization campaigns, the establishment of clean water supplies and sanitary facilities, and local-level education and participatory training in nutrition and health practices. Figure 5 provides a matrix to help consider the need for the best type of nutritional strategy, including selective feeding programmes, for situations where people have little or no access to food other than food aid, such as following a large influx of refugees.

[5] Selective feeding programmes include supplementary and therapeutic feeding programmes, community kitchens and institution-based feeding programmes.

[6] Institution-based therapeutic feeding programmes are not covered in this document. Extensive specialized reference material is available and is included in the list of further resources.

Figure 5: Selection of nutritional strategies

Stage of food insecurity	Indicators	Specific objectives	Nutrition interventions	Comments and recommendations
Famine ------>	• Global malnutrition rate > 40–50% • CMR > 5/10 000/day • Malnutrition among adults • Food availability and accessibility non-existent or severely reduced • Distress migration	• Increase access to food to prevent further deterioration • Decrease mortality and morbidity of severely malnourished individuals	• GFD • BFP if necessary • TFP for children and adults • SFP for children and lactating women	• Ensure adequate GFD (monitoring and lobbying) • Implement BFP if GFD is not adequate • If necessary, start with day care TFC and organize 24 hours when possible • Control epidemics and primary communicable diseases through the provision of adequate health care and water and sanitation services
Serious food crisis ------>	• Global malnutrition rate > 20% • Severe malnutrition > 5% • CMR > 2/10 000/day • General reduction of food availability and accessibility	• Prevent famine • Encourage decentralized distribution (subsequently prevents distress migration) • Decrease mortality and morbidity of severely malnourished individuals	• GFD • BFP if necessary • TFP for children and adults • SFP for children and lactating women	
Food crisis ------>	• Global malnutrition rate > 10% or 15% • Severe malnutrition > 3–4% • CMR increased > 1/10 000/day • Food accessibility reduced for vulnerable households	• Increase access to food to prevent further deterioration for the vulnerable groups • Decrease mortality and morbidity of malnourished individuals	• GFD + food security interventions • BFP if necessary • TFP • SFP	• If the situation deteriorates give priority to GFD (+ BFP if inadequate) • If the situation improves give priority to BFP towards identified vulnerable groups • Consider simple interventions (e.g. dry SFP) first
Food insecurity ------>	• Severe malnutrition rate < 3–4% • CMR < 1/10 000/day • Food availability and accessibility slightly reduced	• Decrease mortality and morbidity of malnourished individuals • Prevent deterioration	• TFC (often integrated in hospital) • Food security interventions	• Implement food security measures: food for work, veterinary services, seed and tool distribution, etc. • Conduct nutritional surveillances • Conduct nutritional screenings in health facilities; organize a referral system • TFC: support hospital (paediatric ward) to improve treatment of severe malnutrition • Support medical facilities; begin SFC if necessary

Notes:
Global acute malnutrition rate = W/H: < 80% of median or oedema.
Severe acute malnutrition rate = W/H < 70% of median or oedema.
CMR = crude mortality rate.
GFD = general food distribution.
BFP = blanket feeding programme.
TFP = therapeutic feeding programme.
SFP = supplementary feeding programme.
TFC = therapeutic feeding centre.

- There is an implicit hierarchy of importance in the specific objectives presented in the figure: all interventions aimed at famines and severe food crises must include basic access to food through GFD in order to be effective.
- Mortality rates are influenced by a variety of factors (e.g. health status, outbreaks, etc.), yet they represent the best indicator of the seriousness of a situation. Seasonally high malnutrition rates without increased mortality should be considered with caution.
- All feeding programmes should run parallel to basic public health interventions. Epidemics and primary communicable diseases should be controlled through the provision of adequate health care and sufficient water and sanitation.
- Malnutrition rates should be considered according to percentage of the median rather than z-scores.
- Food accessibility and availability must be interpreted by means of comparison with a normal situation.
- Populations are rarely homogeneous; therefore it is always necessary to consider subgroups.
- TFPs require much more intensive training, management and supervision. In general, SFPs and BFPs are easier and more rapid to implement.

Selective feeding programmes for orphans, the elderly and the disabled are appropriate in the following situations:

- There has been a severe breakdown in social support and coping mechanisms. The needs of these groups could be met through channelling support through local mechanisms (e.g. additional rations to families hosting orphans, institutionalized feeding [orphanages]), or the creation of alternative local support structures (e.g. the establishment of local group-managed kitchens, etc.).
- There is high prevalence of HIV/AIDS in the population, and people living with HIV/AIDS (PLWHA) are unlikely to be able to meet their higher nutritional requirements through a general ration or normal household food supplies.
- There are a high number of TB patients who default on their medication as their appetite begins to improve, because they are unable to afford additional food purchases.

Feasibility

The following requirements are essential for the successful implementation of SFPs:

- SFPs should always be implemented alongside the provision of an adequate general ration, or where household food availability is sufficient. Otherwise they will be of low effectiveness.
- SFP workers need to be trained and supervised in applying standard entrance and exit criteria.
- On admission, participants should be medically screened, and treated if necessary (e.g. deworming, diarrhoea management, malaria treatment, micronutrient supplementation, immunization, antenatal care).
- A system is required for referring severely malnourished children to therapeutic feeding, and for providing medical checks to determine the presence of an underlying condition such as TB or HIV/AIDS.

Locally available and marketed fortified and blended foods should be used in supplementary feeding programmes for children. Blended foods are ideal for the intended beneficiary and, in general, unfamiliar to and unappreciated by adults. This reduces the risk of supplementary foods being diverted within the family. If local blended food mixes are not available in sufficiently large quantities, imported blended foods such as corn–soya blend (CSB) could be used as an interim measure. However, the continued use of CSB as a complementary food in supplementary feeding centres, or as a take-home ration, reinforces a medical model of malnutrition as a disease that requires to be cured with special commodities.

It is harmful to distribute dry skimmed milk (DSM) powder. DSM does not supply an adequate nutrient mix, and when reconstituted with unclean water it becomes an ideal breeding ground for bacteria, especially in hot climates. A premix porridge can be made up with cereal flour, oil, sugar and DSM mixed together. The premix then has to be boiled to make it edible.

Identification of an appropriate delivery mechanism. Supplementary feeding programmes can provide cooked meals ("wet feeding") at a central site, or provide dry take-home rations. There are advantages and disadvantages of both methods, and neither has been consistently shown to be more effective than the other.

Wet feeding can be more easily targeted to malnourished children, but is more labour-intensive and costly and is more frequently used for day care or 24-hour therapeutic feeding. A physical structure with water and sanitation provision needs to be identified or built. Cross-infections are likely to increase when a large number of sickly children are cared for together. A care taker should accompany the child to the feeding centre; this can increase

the pressures on women's time and disrupt family meal patterns and activities.

More recently there have been initiatives to treat severe acute malnutrition at the local level, as Box 46 explains.

Box 46: Comminity-based therapeutic care

Community-based therapeutic care (CBTC) aims to treat the majority of people with severe acute malnutrition in their homes. This type of care combines the management of malnourished children using outreach workers and the "hearth" method of home-based nutrition education and support. The approach uses mothers from the community who are selected on the basis of their ability to raise well-nourished children, even in the face of poverty. In addition to these two features, CBTC also utilizes the newly developed ready-to-use therapeutic food (RUTF), which is specially designed to treat severe malnutrition in the community.

During the first few weeks of an emergency, there is often little choice of ways to manage the severely malnourished in the community. Once therapeutic feeding centres have become operational, CBTC is appropriate for patients in the rehabilitation phase of treatment. This normally lasts from day seven until discharge, and includes about 75 percent of patients.

Ideally, CBTC could operate alongside a therapeutic feeding centre to which complicated cases can be admitted briefly for initial rehydration and antibiotics and to re-establish appetite. Initial experience in Ethiopia suggests that, with appropriate support, local clinics and health posts can provide this function. This approach is still in its infancy with small pilot programmes. Rigorous research is needed to compare the impact of programmes based on CBTC with those using therapeutic feeding centres.

Source: Collins, 2001.

A dry take-home ration system allows distribution to greater numbers of children, at a frequency that takes into account the local context and resource availability. A wider catchment area can be covered. These factors may be important in situations where conflict limits humanitarian access, and the general population continues to circulate between unstable and secure areas. Local health or extension workers, teachers, etc. could be involved in the implementation and monitoring of take-home ration systems. The disadvantages of this system are that unless an unfamiliar blended mix is used the food is generally placed in the "family pot" rather than given to the intended beneficiary alone. There are also fewer opportunities to implement direct nutrition and public health promotion activities.

Effectiveness

An efficient monitoring and follow-up system is needed to minimize the number of drop-outs from SFCs. If the overall situation remains food-insecure, or there is an inadequate general ration, the number of readmissions will be high. Households with children in an SFP should have priority for longer-term interventions aimed at increasing income levels and food production. The size of dry take-home rations should be calculated on the assumption that the food will be shared at least among other children in the family.

Selective feeding programmes can be designed in a way that fosters local participation, self-reliance and integration with other activities, such as community-based growth monitoring and promotion, the use of local materials to construct facilities and provide ingredients for rations, and the employment of mothers or the elderly from poor and/or vulnerable households. Selective feeding programmes should routinely provide nutrition and health education (i.e. basic hygiene, health care, HIV/AIDS sensitization/awareness, complementary/weaning food preparation) as this greatly enhances their effectiveness. Education classes with group discussions and practical demonstrations should be

organized, taking into account the social and cultural preferences for timing and location. Existing health workers, teachers and extension workers could be given basic/refresher training to provide nutrition education, counselling, community-based growth monitoring and referrals in their home areas.

Monitoring

Monitoring the functioning of supplementary or therapeutic feeding centres for malnourished children should include:

- Number of admissions.
- Average weight gain per child per week.
- Numbers successfully discharged within the recommended period.
- Numbers of drop-outs and readmissions.
- Numbers of follow-up home visits.
- Changes in feeding and caring practices at home.
- Numbers of socially marginalized groups attending.

The role of food aid in shifting between short- and long-term interventions

The basic right to an adequate quantity and quality of food must be ensured and upheld at all times. The timing of when to move from one food distribution modality to another therefore depends on information on livelihood options, the security situation and nutritional surveillance. General food distribution should be phased out as soon as appropriate, but must be tied to support that strengthens and reinforces households' existing coping mechanisms and/or allows people to develop alternative means of obtaining food. The general distribution can be replaced by a targeted system following an assessment of who needs continued aid, and when adequate programmes to promote livelihoods are in place. Targeting food aid to the most vulnerable helps to prevent an oversupply of commodities on the market, which may depress prices. In such cases, food aid commodities lose their economic value and farmers have little incentive to resume or increase production.

In protracted crisis situations, when households have regained a level of self-reliance, targeted food distribution may be phased out and replaced with a safety net for the most vulnerable, as well as self-targeting mechanisms such as food for work.

Targeted food aid distributions

Part of WFP's food aid policy incorporates the concept of "food for assets". Through this modality, the food-for-work (FFW) concept has been expanded with the specific idea of creating long-lasting productive assets that result in better health, nutrition and productivity, as well as mitigating future shocks. This has implications in terms of the ability to intervene early in order to provide assistance to protect assets, contribute to good nutrition in early childhood, use food to help children attend primary school and learn, and assist the poor to use natural resources in a sustainable manner before they become irretrievably degraded.

Relevance

FFW/food-for-assets activities are appropriate if an assessment has identified the following conditions:

- People have limited access to food, or there is limited food available in the region and a pool of underemployed people.[7]
- Contingency planning incorporates the preparation of off-the-shelf protocols and proposals for food-for-asset activities and projects that can be launched quickly and are in harmony with government rehabilitation and food security policies.

The timing and duration of potential food-for-assets activities needs to be assessed. If individuals are engaged in a local-level food-for-assets project, they cannot spend time on their own productive activities or on building up their own assets. The implications for child care provision need to be considered, especially if women are among the target group for the activity. Box 47 describes how FFW activities have been used to encourage savings among women in Burundi.

Box 47: FFW for agriculture and cash generation in Burundi

In Burundi, displaced and other vulnerable women can request WFP assistance for FFW projects for income generation and agriculture. The women can do this via NGOs or ministries, or directly as a group. Given the emergency situation, many of the projects are only short-term (i.e. of one, two or three months, renewable up to eight months). Examples include bakeries, sewing, basket weaving, vegetable gardens and cotton cultivation. The group leader has to be female. Groups are encouraged to set aside a proportion of their earnings as savings, so that resources are built up and activities can continue without WFP assistance.

Source: Wilde, 1997, p.21.

Food-for-assets activities are not an appropriate way of addressing direct nutritional objectives, as households with malnourished individuals may not have the physical capacity to work on these projects, and rations may not be based on nutritional considerations.

Feasibility

The following conditions need to be in place for a successful FFW/food-for-assets project:

- Resources other than labour and food are needed for many kinds of work, e.g. tools, machinery and trucks for road building.
- Capable and experienced implementing partners are needed.
- Local-level management structures should be able to determine priorities, use and control the benefits of activities, and agree to take on the recurrent costs of activities in order to maintain the benefits.

In stable and secure areas, food-for-assets activities can be oriented towards establishing or rehabilitating productive infrastructure: irrigation systems, terracing lands, clearing and planting fields, planting trees, repairing roads/bridges to market towns, making drying floors, etc.

In conflict and unstable situations, food-for-assets modalities should focus on investing in skills and training that create mobile assets (e.g. marketing, business skills and caring practices for vulnerable household members).

[7] Cash-for-work programmes should also be considered where food availability is not a problem and where an increased supply of food aid may distort local production and marketing systems.

The ration size (wage) will determine both the numbers and the alternative occupations of those who enrol. A lower wage will result in self-targeting to the poorest and most food-insecure people. High wages may have the benefit of driving up wages in the local labour market, but may draw people away from other occupations. The food rations provided may have disincentive effects on local agriculture and markets. Ideally, the ration is set to be equivalent to existing cash wages, so people are not drawn away from other types of employment, and the programme simply provides additional employment.

All food distribution modalities should be complemented by information about the reasons and criteria for any targeting mechanism, the content of food rations, and options as to how best to utilize it.

Effectiveness

The reconstruction of physical infrastructure alone is not sufficient to allow social and welfare facilities to function. Service facilities (e.g. health centres and schools) should not be reconstructed until it has been established who (government, local authorities, communities) will equip the facility, provide trained staff and guarantee a regular budget to enable the facility to operate sustainably.

Wherever possible, nutrition, health and social awareness promotion should be incorporated into activities related to the construction or rehabilitation of social and welfare infrastructure. For example, public health and sanitation should be promoted in conjunction with well construction, and youth, sport and social clubs should be supported in conjunction with the construction of meeting spaces.

Food-for-assets modalities can help to provide conditions for future sustainable livelihood activities, for example, rehabilitating irrigation systems, reclaiming land, conserving land and water, conservation farming techniques, and seed multiplication. These types of projects should also incorporate agriculture and nutrition information that is related to different aspects of the food chain, i.e. from productive activities, storage, processing and marketing to consumption and utilization.

Food-for-assets interventions involving training and skill acquisition could be linked to the provision of small grants on “graduation” in order to provide start-up capital for income generation activities.

Food-for-assets programmes have high potential for supporting local decision-making capacity, organization and management. Both men and women should be involved in planning, implementing, monitoring and evaluating activities. Box 48 gives some examples of how gender and participation issues can be approached in different food aid distribution contexts.

Box 48: Focusing on gender and participation in emergency food aid distributions

Emergency distributions in communities:

- Ensure women's equitable participation in decision-making.
- Include female heads of household in registration.
- Decrease women's vulnerability to violence by including women in planning the location of distribution points.

Refugee camps:

- Women and men should be equitably represented on committees.
- Women's groups should be responsible for identifying the most vulnerable.
- Women's security risks should be reduced through a system of "women's guardians" (with vests and whistles) who oversee offloading, registration, distribution and post-distribution portering.

FFW projects:

- Involve community members (women and men equally) in planning and activity selection (with a focus on producing assets for the community).
- Set work norms with women and men, aiming to reduce women's overall burden.
- Improve communication and access to information.

IDPs:

- Seek to improve communication channels (through women) to improve needs assessment.
- Identify and reduce security risks for women.
- Target women heads of household for registration.

Source: Wilde, 1997.

Monitoring

- Numbers of vulnerable communities and households involved in the project.
- Numbers of communities actively involved in planning and managing food, activities and assets.
- Non-food items successfully obtained and used.
- Numbers of effective implementing partners and successfully completed agreements/contracts.
- Changes in number of food-insecure households or length of hungry period.
- Numbers and types of assets created, and their impact on sustainable livelihoods.
- Gender equality in management of and benefits from the assets created.
- Existence of maintenance arrangements for assets.
- Cost-effectiveness of the activities.

Box 49 provides examples of activities where FFW or food for assets could play a role.

Box 49: Examples of activities where FFW/food for assets could play a role

Livelihood support:

- Conservation, multiplication and distribution of local seeds.
- Seed store construction, and training in seed bank management.
- Rehabilitation of tree nurseries, reforestation projects to replenish soil nutrients.
- Construction of check dams.
- Training for the local production of hand tools.
- Training in marketing, business skills, and street food quality and safety.

Support to economic and social infrastructure:

- Rehabilitation of access roads to markets, schools and health facilities.
- Reconstruction of health posts, schools, markets, water points and community infrastructure (meeting places, sports facilities).

Support to skill and knowledge development:

- Basic training for community health workers, trained birth attendants, nutrition workers, etc.
- Basic training for public health, and sanitation programmes (latrines, rubbish collection, abattoirs, market and water point hygiene).

Further reading and resources

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Technical briefs

Brief 8. Strategies and lessons for establishing home gardens

Brief 9. Estimating general ration needs per person and calculating food aid requirements

Brief 10. Issues to consider when choosing food relief commodities

FAO/23329/A. Proto

Elderly woman using a hand tool to prepare land for planting in a field in front of a factory that was destroyed during the war

Theme X. Information systems

In crisis situations, there are increased demands on information systems. These demands reflect the often unstable and insecure operational environment, multiple information needs and users, and the need for real-time information on which to base decisions. Humanitarian information systems may include the following components:

- baseline vulnerability analysis and poverty assessments;
- early warning information for food security;
- emergency needs assessment;
- programme monitoring;
- impact evaluation;
- context monitoring;
- lessons learned exercises;
- community-based food security and nutrition information systems.

All these components can contain data and information relevant to assessing, analysing and acting on food security and nutrition problems. Some of the components can operate simultaneously, others provide information that can be used in other components. Each component may have specific objectives, users and uses, and may operate at different levels. While there is a need for collaboration and coordination (to ensure standardized methodologies, coding, formats and data exchange), an integrated master system is often neither feasible nor desirable. Box 50 illustrates the experience in southern Sudan.

Box 50: Food security data in southern Sudan: access and management issues

Given the complex nature of food security, which covers elements of availability, access and utilization, there is wide scope for many institutions to look at only one particular aspect. Few, if any, actively cover the whole food security spectrum from an operational perspective. This emphasizes the need for coordination in order to bring together the different institutions under a commonly perceived and defined overall goal.

On a number of previous occasions involving a number of agencies, the approach in southern Sudan was to attempt to gather all data into one large database, under the assumption that analyses and results would flow from that database.

However, this approach was handicapped by agencies' delay in passing on their data, the difficulty in finding one database manager with wide multisectoral expertise, and difficulties in keeping such a third-hand database up to date. All previous attempts in southern Sudan failed. It is therefore more appropriate to consider access to, rather than ownership of, a complete database. This is often referred to as a distributed database, in which the component owners agree to share access to all or some of their data.

Source: FAO. 2001. *Operation Lifeline Sudan Household Food Security Programme, data needs and a management system.* Office of the FAO Household Food Security Coordinator, Southern Sudan. December 2001.

Baseline vulnerability analysis and poverty assessments

These describe and analyse the risk factors to which vulnerable populations are exposed, and their capacity for dealing with risks and the impact of shocks. The information is normally used for informing long-term poverty alleviation programmes, social safety-net mechanisms and national disaster management and contingency plans. It is valuable at the national level for drawing out differences in vulnerability and poverty that are based on geographical and population groups. When they already exist, vulnerability and poverty assessments and maps can provide extremely useful background and baseline information on risks, livelihood systems and the characteristics of different population

groups. This information can provide basic indicators for an early warning system to assess the changes brought about by a crisis.

Early warning systems for food security

These should be an ongoing activity to provide information for predicting and mitigating the impact of shocks before an emergency situation has emerged. Early warning systems can operate at different levels, for example, the Global Information and Early Warning System on Food and Agriculture (GIEWS), the Famine Early Warning System Network (FEWS NET) and the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) at the global level, the Southern Africa Development Community (SADC) and the Intergovernmental Authority on Development (IGAD) at regional levels, and national early warning systems at the country level. Early warning data collection activities may be based on a statistically representative sample population, or sentinel sites may be chosen to represent best- and worst-case situations or population groups of particular concern. If the objective of an early warning system is to draw national comparisons, it is necessary to collect standardized data on a key set of common variables. However, these may not be the most relevant indicators at the local level, and the interpretation of each indicator can be location-, production group- and even season-specific. Many societies (especially pastoralists) use indigenous technical knowledge (ITK) to predict climatic and pasture conditions. In some situations, it may be possible to include indicators based on ITK in a national system, in order to complement or verify other information sources.

Normally EWS includes modules on the following aspects.

***Agricultural production**:* Monitoring activities for agricultural production are generally based on seasonal assessments that are carried out by provincial or district officials. Variables include cropping patterns, area under cultivation, input availability, crop development and yield forecast. Climatic data, together with remotely sensed data on cold cloud cover and vegetation indices, are also used to feed into early predictions of likely crop performance.

***Market information**:* This is used to monitor supply and demand conditions at different levels for agricultural inputs, produce and food commodities. Analysis of seasonal and inter-annual price movements and shifts in terms of trade can contribute to understanding how production failures may affect food access.

***Health and nutrition surveillance**:* This can be based on data collected from facilities (e.g. health clinics and schools) or through population-based surveys. Data on nutritional status, morbidity and mortality may be included. Care is required when interpreting facility-based data, as they reflect the situation only of those attending or with access to the facility. Household living condition surveys and expenditure and consumption surveys may be available, but only at intervals of five to ten years. Box 51 describes a nutritional surveillance system in the Sudan.

Other types of data that feed into early warning systems for food security relate to demography (e.g. population movements), food aid, macroeconomic performance and incomes. More recently, indicators relating to conflict (e.g. the build up of militia groups, clan tensions over access to water and pasture) and political conditions (e.g. border closures) are being included; however, by their nature, these are highly sensitive and may only be used to help interpret a situation, rather than being explicitly incorporated into a reporting system.

Box 51: Food security data in southern Sudan: assessment and monitoring

Following the famine of 1984–1985 and a failed harvest in 1987, Oxfam implemented an early warning system involving community-based nutritional surveillance. The focus was North Darfur, which was identified as the region most prone to drought and food insecurity. The system involved rapid nutrition assessments that provided local-level information to complement broader indicators that had already been monitored by the Agricultural Planning Unit. Longitudinal anthropometric monitoring was undertaken in three villages.

The following were the methods used:

- *Rapid nutrition assessments*: Those villages most affected by food insecurity were selected for study. Quantitative information was collected via anthropometric measurements of children and short questionnaires about food security. Qualitative data were obtained via semi-structured interviews with focus groups and key informants, observations and wealth ranking.
- *Longitudinal monitoring of sentinel sites*: Malha, Mareiga and Cuma were chosen as the villages expected to show the first signs of deteriorating conditions. Three volunteers in each village were trained to weigh and measure children and analyse and interpret the results. 50 households were selected at random every three to four months for one year, and then a new sample was selected for the next year. Semi-structured interviews based on a checklist were carried out with mothers.

Standardized reports on each round of monitoring were disseminated to agencies, ministries and donors in Darfur and Khartoum. In September 1990, the expatriate staff were evacuated for security reasons, but the surveillance system continued.

Source: Young and Jaspers, 1995.

Early warning information should feed into disaster preparedness and response mechanisms at the international, national and local levels. Emerging problem areas or groups should be flagged in order to activate an emergency needs assessment. Box 52 gives examples of systems that are currently operating in the Horn of Africa.

Box 52: Examples of disaster preparedness and contingency planning in the Horn of Africa

A number of early warning systems exist in the drought-prone countries of the Horn of Africa. Some of these have a regional focus, such as that supported by IGAD and FEWS NET, the USAID-funded project providing extensive coverage throughout Africa and other parts of the world. There are also country-level systems, such as the Food Security Analysis Unit (FSAU) in Somalia, and localized information systems, such as the Arid Lands Resource Management Project in Kenya.

The IGAD system covers Djibouti, Eritrea, Ethiopia, Kenya, Somalia, the Sudan and Uganda. Activities that contribute to disaster preparedness include maintaining a regional early warning and food information system, and drawing up preparedness strategies at both the national and regional levels. FAO is assisting with the latter, which have two main components:

- a drought mitigation action plan;
- a disaster preparedness plan to address drought-related food emergencies.

Programme monitoring

This is designed to ensure that specific inputs (food, seeds, training activities) reach their intended target groups in a timely manner and achieve the expected outputs or results (food distributions, crops cultivated, people trained). The main users of this type of information are programme managers and donors, who use it to ensure that adequate control systems are in place and that there is accountability of the funds received. Examples of programme monitoring indicators include numbers of beneficiaries reached

(by gender), and quantities of items distributed. Box 53 gives an example of monitoring food ration distributions among refugees in the United Republic of Tanzania.

Box 53: Monitoring rations received by refugees in Benco camp, Ngara, United Republic of Tanzania

Health agencies frequently monitor food baskets as part of their nutrition programmes in refugee camps. In 1994, at Benaco camp for Rwandan refugees, three Médecins sans Frontières (MSF) agencies and Action Contre la Faim (ACF, then known as Action International Contre la Faim [AICF]) monitored two distributions per month for each of the three distributing agencies. Some 40 families were sampled at each of these distributions, which covered a minimum of three communes so that it was possible to detect differences in the food received depending on the distributing agency and the receiving commune. The same number of families (a total of 240 per month) were visited at home two days after the food distributions in order to monitor food availability in the home, because it was known that some families were receiving more than one family ration.

It was found that results often conflicted with calculations based on reports of food quantities distributed by the distributing agency. One possible explanation of this was fraud on the part of the individuals employed to distribute the food. The food distribution method was changed later in the operation.

Source: Jaspers, 1994

Impact evaluation

Regardless of whether or not specific inputs have been supplied, it is necessary to evaluate whether the desired impact is being achieved. Examples of impact indicators include changes in the consumption of specific foods, dietary variety, infant feeding practices, levels of food insecurity and malnutrition, morbidity, levels and sources of income, and levels and types of participation. An impact evaluation provides critical feedback for the design and implementation of interventions, and can help the assessment of which particular activity is most effective in reaching the desired objective or goal.

A monitoring and evaluation plan should be prepared at the project/intervention design stage, in order to identify which data should be collected (and how they will be linked to needs assessments and baseline surveys), how they will be collected, and who will be responsible for the different steps in the monitoring and evaluation process. The plan should also identify mechanisms for linking the information generated to programme decision-makers and beneficiary communities.

Monitoring and evaluation indicators need to be selected on the basis of:

- ease of collection (especially in areas where access may be intermittent);
- ease of interpretation;
- ability to disaggregate by gender and socio-economic status;
- an understanding of the multi-causal nature of malnutrition;
- validity, i.e. how well the indicator measures what it claims to measure;
- reliability, i.e. whether the measurement is replicable across samples.

It is also important to be able to differentiate the effects of a specific intervention from those of other factors that may have influenced an outcome. For example, increased food production may not be the result of a seed distribution intervention, but rather of improved stability and security allowing more land to be cultivated, or of better than normal rainfall patterns.

Box 54 provides an example of the use of location-specific indicators to monitor the impact of a food intervention after the agency had recognized that aid provision played an additional role. This case also illustrates how, in emergency situations, objectives are modified or added to during implementation.

Box 54: Indicators to monitor the impact of food aid in Goma, eastern Democratic Republic of the Congo

Following a joint UNHCR/WFP assessment mission in October 1996, it became clear that providing an adequate ration was essential not only for maintaining a satisfactory nutritional situation but also for preventing the situation between refugees and the local community from worsening and leading to increased instability in the region. The smaller the general ration was, the greater were the number of undesirable activities and events. The following performance indicators to monitor the welfare of the refugees and local population were identified:

- numbers of adolescents leaving the camps to pursue any source of survival, including joining the fighting parties in the Massisi region;
- number of cases of teenage prostitution;
- number of robberies and attacks on food and food stocks.

Source: Adapted from van Nieuwenhuyse, 1997.

Participatory monitoring and evaluation systems

These can be used to complement the types of information described in the previous subsection, for example, to determine whether the contents of a ration were culturally acceptable and of adequate quality, the seeds distributed were agronomically suited and germinated, or the training activities were relevant and conducted at convenient times. Participatory monitoring and evaluation can be designed to show different perspectives (e.g. by age, gender, livelihood). Monitoring activities can be incorporated into schools, with children collecting market price data, surveying the number of latrines constructed, etc.

The results from monitoring and evaluation activities can be posted in public places (markets, schools, religious meeting places) or presented at public meetings. This is important because providing feedback to affected populations can assist the verification of information and stimulate discussion as to why interventions are not having their intended effects.

Context monitoring

This is similar to early warning information activities; however, the monitoring of climatic and production conditions, nutrition surveillance, the political and security situation, and institutional capacity or strength is used to judge the balance between the needs for life-saving interventions and livelihood protection or promotion. Context monitoring also makes it easier to interpret monitoring and evaluation indicators, for example, an unusual increase in market prices may be the result of a disruption to commercial and relief food distribution networks caused by deteriorated security conditions.

Lessons learned exercises

These are critical components that contribute to institutional memory. They can be internal exercises conducted by organizations with beneficiary groups, or they can be implemented on behalf of donors or public fundraising mechanisms (e.g. the Disaster Emergency Committee in the United Kingdom). Findings from lessons learned studies can provide feedback for disaster preparedness, contribute to improving agency adherence to international standards and codes of conduct, and highlight best practices.

FAO/19440/R. Faidutti

Women with freshly ground cereals at Medeber market

Community-based food security and nutrition information systems

These can be autonomous and/or complement national early warning or food security and nutrition information systems. They can be established in situations where there is sufficient time and stability to discuss the need for and use of information with local groups. Investments need to be made in training and oversight. The process of choosing indicators can stimulate discussions about local perceptions and definitions of food insecurity and malnutrition. Local-level identification and ownership of the data collected and the resulting information are crucial if community self-monitoring systems are to be self-sustaining. A combination of normative (for national comparisons) and location-specific indicators can be collected. Data collection can be incorporated into ongoing activities (e.g. a community-based growth monitoring programme).

Box 55 highlights some of the advantages of supporting the development of a local food and nutrition information system.

Box 55: Supporting the development of a local food and nutrition information system

A starting point for this could be a joint training course in designing and managing a food and nutrition information system for staff from different disciplines (agriculture, health, education, etc.) and agencies (relief and rehabilitation/development).

Such training provides the necessary operational framework and local capacity for promoting participatory community projects to improve household food security and nutrition. Most information systems in emergencies are set up and managed by external experts to provide donors and policy-makers with the data they need to target emergency assistance. A local food and nutrition information system would provide an integrating framework, which would overcome barriers in the following three ways:

- It would enable a progressive reorientation from a centrally run system to one that satisfies both local and external information needs.
- It would bridge the gap between nutrition and food security by seeking to understand households in terms of their comprehensive needs (regarding not only their need for food aid, but also their ability to restore their livelihoods and proper health and nutritional status in the longer term).
- It would enable the transition from relief to rehabilitation through joint planning with people to identify locally feasible solutions. This can lead to sustainable improvements in household food security and nutrition by providing donors and development agencies with a basis for rehabilitation activities and programmes.

Community-based information systems can support local problem identification, analysis and action. However, this approach needs to be able to tap both local and external resources in order to develop interventions that address the problems identified, and to provide tangible results in order to be successful

Matrix of nutrition activities in emergency situations

Reading the matrix

- This matrix (see following pages) is meant to provide guidance on nutrition actions to be implemented during different phases of a humanitarian crisis.
- It is meant to be read from left to right.
- To avoid repetition, actions are mentioned only once. In other words, if an action is mentioned in the acute phase, it should also be implemented in the post-acute and reconstruction phases.
- In any given country, different areas may be in different emergency phases at the same time, and there may be a degree of back and forth between phases (e.g. many emergencies do not follow a linear sequence from acute emergency to reconstruction).
- Phases will vary in time depending on the nature of the emergency, but acute phase interventions should be started as soon as possible after the emergency occurs. Solid emergency preparedness will help to accelerate the implementation of a successful acute phase response.

Principles

- Nutrition interventions are multisectoral and should seek to complement and add value to interventions in different sectors by paying attention to the timing and sequencing of interventions.
- Local-level participation and capacity building should be integral to all intervention, although the extent to which this is possible depends on the local context.
- It is important to establish coordination and leadership mechanisms prior to an emergency, and to leverage organizations' differential strengths, so that each can lead in their area of expertise.
- Local and national governments should be involved and may be able to allocate human and financial resources.
- These activities may be developed in the absence of national policies or programmes, such as in situations where non-State entities control territory and populations, or where government no longer has the capacity to act.
- Nutrition interventions for displaced populations should also service host populations to the maximum extent possible.

Emergency preparedness

I	II	III		IV	V		VI & VII	VIII	IX	X
		Household food utilization			Caring practices					
Food production and diversification	**Access to food**	**Storage processing, conservation and preparation**	**Food safety and quality**	**Health, water and sanitation**	**Infant and child feeding**	**Women and the socially vulnerable**	**CBGMP nutrition education and communication**	**Training and extension services**	**Provision of food aid**	**Information systems**
- Assessment of existing natural resource base and production-based livelihood strategies - Land tenure practices: potential for production-based interventions -Seed, planting material, small livestock sources	- Assessment of non-agricultural livelihood activities and sources of income - Assessment of physical market facilities and market functioning (trade routes, actors, information systems)	- Assessment of existing storage, processing, conservation and preparation practices	- Identification of existing legislation - Identification of staff and IEC materials	- Identification of fixed and mobile facilities and staff - Sources of vaccines, micronutrients, etc.	- Identification of existing infant and child feeding knowledge and practices	- Civic awareness campaigns to provide information on rights of IDPs and refugees - Conflict prevention and resolution		- Training in disaster preparedness and management	- Awareness raising and training on international codes of conduct for agency staff and civic leaders	- Baseline vulnerability analysis and poverty assessments - Support to early warning and crop monitoring and forecasting

Acute phase

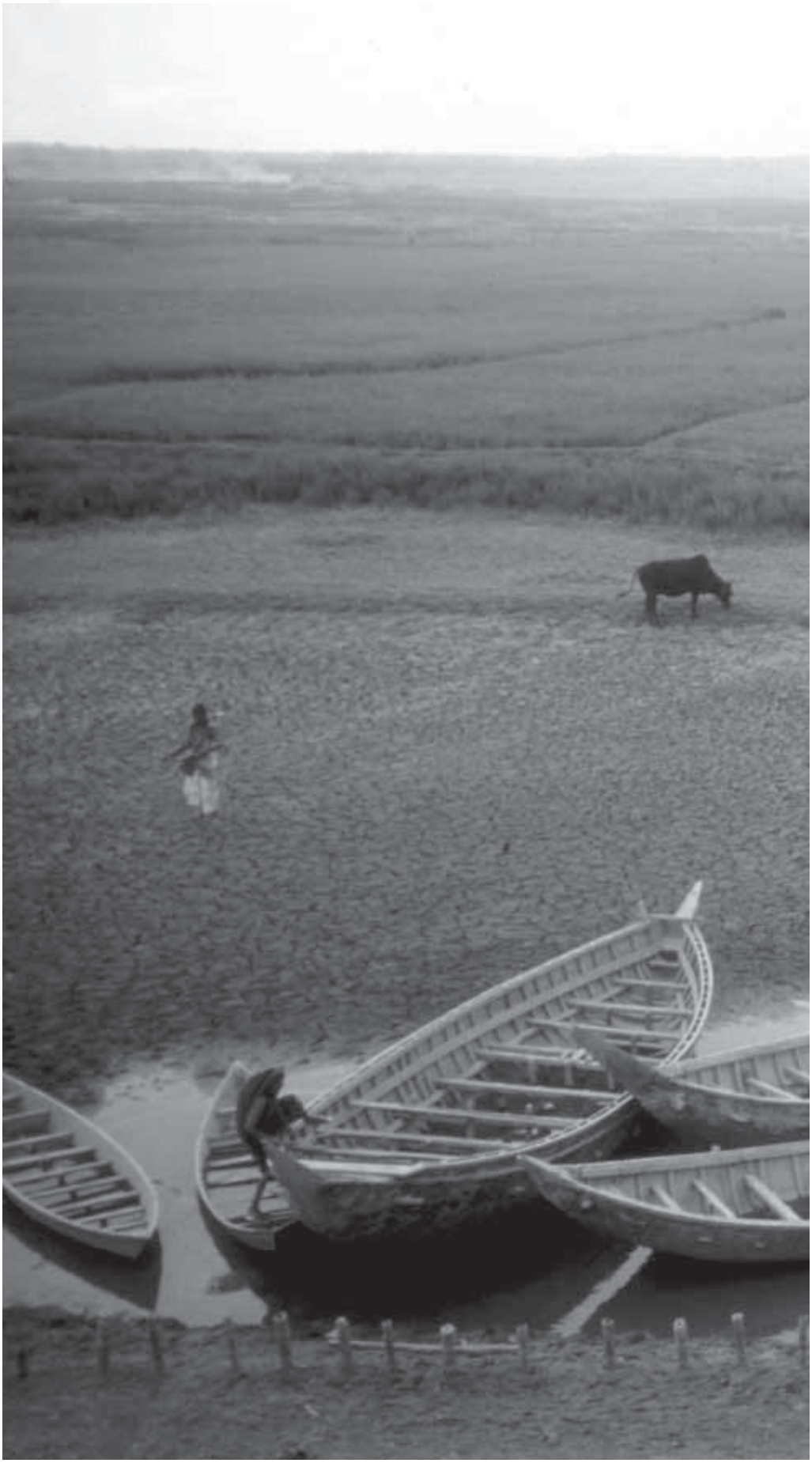
I	II	III		IV	V		VI & VII	VIII	IX	X
		Household food utilization			Caring practices					
Food production and diversification	**Access to food**	**Storage processing, conservation and preparation**	**Food safety and quality**	**Health, water and sanitation**	**Infant and child feeding**	**Women and the socially vulnerable**	**CBGMP nutrition education and communication**	**Training and extension services**	**Provision of food aid**	**Information systems**
- Planning and design of programmes with affected populations	- Fair price shops; - Market infrastructure and environmental hygiene - Support to local marketing boards - Information on employment opportunities - Cash-for-work programmes	- Information on storing ration commodities hygienically and safely - Access to storage materials and equipment - Rat and pest control - Minimum standards for warehouse practices - Information and demonstrations related to unfamiliar crops and new foods available - Access to community-level processing (grinding, ovens) - Fuel-efficient stoves, hay boxes	- Promotion of adequate abattoirs and marketing facilities and inspections - Food hygiene training for market/street vendors - Promotion of personal health and hygiene practices	- Medical teams from the national or international level - Supply of basic essential drugs and medical supplies - Malaria prevention and control (e.g. treated bed net distribution) - Deworming and public health measures to reduce transmission of parasites - Diarrhoea control - Minimum standards for water sources - Gender- and child-appropriate latrine provision, water and bathing facilities - Water storage containers - Training of community public health and environment workers - Sewage and garbage disposal - Competitions for the cleanest street, block, school, market - Micronutrient supplementation	- "Diarrhoea corners" -"Breastfeeding stations" to provide support for lactating mothers - Availability of complementary food mixes - Woman- and child-friendly spaces - Responsible use of breastmilk substitutes - Prevention and treatment of moderate and severe malnutrition	- Access to relief is safe for women and people with disabilities. - Trauma counselling - Information on rights and confidential referral mechanism - Family tracing services - Support and care for orphans and vulnerable children - STD awareness and promotion of condom use	- Protection of nutritional well-being of chronically sick		- General food ration is nutritionally adequate - Targeted general food distribution to protect livelihoods - Supplementary feeding programmes	- Emergency needs assessment - Programme monitoring - Context monitoring - Market price information

Post-acute chronic

I	II	III		IV	V		VI & VII	VIII	IX	X
		Household food utilization			Caring practices					
Food production and diversification	**Access to food**	**Storage processing, conservation and preparation**	**Food safety and quality**	**Health, water and sanitation**	**Infant and child feeding**	**Women and the socially vulnerable**	**CBGMP nutrition education and communication**	**Training and extension services**	**Provision of food aid**	**Information systems**
- Crop and livelihood diversification - Home gardens - Poultry production - Fruit and fodder trees - Low-input technologies for HIV/AIDS -affected households - Seed fairs, vouchers - Livelihood inputs (equipment for fishing, forest-based enterprises, etc.)	- Financial services for IGAs (savings, credit, grants), attention to needs of women and physically disabled - Technical skills training - Business skills training - Food processing skills and equipment - Support to cooperative groups for bulk purchases	- Support for improved storage facilities and techniques - Promotion of solar driers - Sale of snacks and ready prepared foodstuffs	- Promotion of safe use of chemicals and waste water for agricultural production - Support to local soap making enterprises	- Training of trainers - Re-establishment of primary health care activities	- Promotion of germination, fermentation techniques for child foods - Community-based therapeutic care	- Support to vulnerable families identified by communities - Community-based care for OVCs - GBSV referral centres	- Promotion of access to and use of locally available foods for complementary feeding - Promotion of the value and utilization of wild foods	- Training of trainers - Support to government extension services, school teachers, etc. to increase awareness of nutrition as a life skill	- Targeted food for assets - Provision of nutritious food and nutritional counselling to HIV/AIDS-affected households - Food for assets: reconstruction of health posts, schools, markets, water points, community spaces	- Impact evaluation - Lessons learned exercises

Post-emergency reconstruction

I	II	III		IV	V		VI & VII	VIII	IX	X
		Household food utilization			Caring practices					
Food production and diversification	**Access to food**	**Storage processing, conservation and preparation**	**Food safety and quality**	**Health, water and sanitation**	**Infant and child feeding**	**Women and the socially vulnerable**	**CBGMP nutrition education and communication**	**Training and extension services**	**Provision of food aid**	**Information systems**
- Water harvesting, check dams - Soil conservation - Conservation, multiplication and distribution of local seeds - Seed store construction and seed bank management training - Rehabilitation of tree nurseries - Reforestation projects to replenish soil nutrients	- Support to establishment of traders' associations - Training for local production of hand tools - Rehabilitation of access roads to markets, schools, health facilities	- Explore appropriateness of establishing community-level food for assets		- Phase out use of emergency supplies and phase in regular procurement in coordination with national programmes			- Training of CBG promoters - Promote awareness of how to meet nutritional needs of PLWAs	- New/revised curricula including nutrition-based life skills education - Mainstreaming of nutrition into relevant policies and programmes, as well as rehabilitation and recovery programmes and projects	- Explore appropriateness of food for assets to establish/ rehabilitate productive and social infrastructure - Determine appropriateness of school feeding - Identify community mechanisms for food and nutrition support to HIV/AIDS-affected households	-Community-based food security and nutrition information systems



FAO/19909/G. Grepin

Nokia boats sunk in a pond to protect them from cracking during the heat of the dry season when drought and a water table of less than 2.5 m cause the wood to crack as the boats dry. En route from Dhaka to Fedore

Part VI

Technical resources and sources for methodologies and practical tools

Technical briefs

Brief 1. Development and testing of checklists

Preparation for the needs assessment starts with identifying information needs based on the framework developed in Part I. A review of existing secondary data and information will help to refine and focus primary data collection needs to avoid duplicating effort. Checklists can be developed to help screen and review secondary data sources, support the preparation of structured questionnaires and/or guide semi-structured interviews, or provide the basis for focus group discussions and diagramming exercises.

Checklists need to be appropriate to the stage of assessment (secondary literature review, primary data collection, validation), the level of inquiry (community, household, individual) and the specific topic.

- Generally, information is first collected at the area level, through key informants, in order to understand the overall context and identify general patterns, differences, estimates of proportions of households affected, etc.
- Household-level information can help to verify area-level information and provides more detail as to what different types of households do in practice.
- Focus groups help to provide in-depth analysis of specific topics.

Interviews with key informants should clarify whether they are providing information about the area as a whole or about what they think/do themselves. When household-level information is being collected, each household should be characterized by livelihood group, socio-economic status, residence status and household head status as appropriate, so that the data can be analysed in a disaggregated manner.

Developing lists with assessment team members helps team building and the identification of priorities. The checklists should be developed in the local language/s to ensure that key concepts can be internalized and explained appropriately. Testing the checklist in the field helps to identify any ambiguity in the questions or in the interpretation of possible responses. Piloting a checklist can also help to improve and standardize interviewing techniques.

General background, political and policy context and security situation

Geographical, demographic and administrative information

- Geographic location and access conditions.
- Nature of crisis (type of shock event, acute/chronic) and immediate impact (high mortality, population movement); imminent risk of further event.
- Administrative and political structure; role of traditional leaders.
- Population estimates and breakdown: residents, IDPs, returnees (since when). Likelihood of continued population movement.
- Demographic characteristics: size and composition of each household (whole households, single-headed households, disabled-headed, child-headed, etc.). Are there many infants and pregnant women? Are there many unaccompanied or

motherless infants? Are there people living outside family structures (e.g. elderly, marginalized through ethnicity, language or religion)?

- Socio-economic characteristics of typical/majority of households: cultivated area, holdings of small livestock, assets, income sources and levels. What are the differences between poorer and better off households?
- Settlement pattern: dispersed/concentrated. Where are the geographical administrative and social centres? Do socio-economic/ethnic/other factors affect the settlement pattern (e.g. poorer households live on the periphery)?
- Shelter/housing conditions: permanent, hosted by relatives/friends, temporary, public buildings, street/open spaces.
- Social organization: groups and leadership (religious, women, youth, recreation); examples of when people assist each other/work together; examples of when this is not possible.

Local-level information

- Daily activity pattern at time of assessment (places and times to find people).
- Water provision: distance, type, state of repair.
- Health infrastructure: type of facility, staffing, supplies and medicines available.
- Sanitation conditions: latrines, rubbish disposal.
- Education provision: early learning, primary, secondary, informal, teachers.

Information needed for planning activities

- Which local government bodies and NGOs (national, international, faith-based) provide food and nutrition-related assistance? What are they doing and what are their organizational capabilities? What has already been provided on departure/arrival?
- What supply and storage resources are available for activities (e.g. access infrastructure, warehouses)?
- What interventions have been planned by government, international, private and voluntary organizations, and what coordination structure is to be used?
- Are there reviews of previous programmes (i.e. lessons learned to avoid identified pitfalls)?

Additional types of information needed in areas of conflict

- Geographical delineation of conflict zones and known mined areas, etc.
- Level of violence and kind: armed groups, use of mines, banditry, involvement of civilian population, incidence of war crimes, and targeting of women (e.g. rape, kidnap).
- Freedom of movement/conditions of access to conflict zones for local people, market traders, humanitarian workers, and the transport of bulk commodities.
- Humanitarian activities of partisan organizations (i.e. government and rebel).

Political context

- National and local political commitment to disaster mitigation and emergency response and longer-term interventions.
- International relations: involvement in conflict resolution/peace negotiations.
- Relations with neighbouring countries: support to partisan groups, acceptance of refugees.

- Donor position: eligibility for development or humanitarian aid, International Montetary Fund (IMF)/World Bank grants/loans.
- Macro policy environment (economic policy, fiscal policy, land tenure, credit), and its enabling/disabling impact on livelihoods.

Sources: Secondary information, key informants from government departments, multilateral agencies (e.g. UNICEF, WFP, OCHA, UNHCR, FAO), NGO (e.g. Care International, SCF, Concern, ACF).

Livelihoods information: how different types of households normally achieve their food and nutrition security and how this has changed as a result of the crisis

Natural resource base

- Land type (upland, low-lying).
- Land utilization (arable, grazing, forestry), and access.
- Soils: types, and trends in fertility.
- Water resources: lakes, rivers, dams, coast, etc.
- Rainfall distribution.

Sources: Secondary data and documentation from government and non-governmental institutions (agricultural, environmental, water, natural resources, meteorological). Local-level mapping exercises and transects.

Local and household asset base

Social organization and assets (before and after the crisis)

- What mutual support activities and reciprocity are there at the household and local levels and with the State (e.g. food sharing, communal herding, support for funerals, care of orphans, social safety net programmes)?
- What local grassroots organizations are there (e.g. women's groups, cooperatives)?
- What are the local criteria and characterization for less well-off/better-off and food-insecure/food-secure households?
- Which are the most influential households in the community? Why? How can they be distinguished?
- What education facilities are there: schools, informal learning, early learning, skills acquisition, teachers (trained/untrained)?
- How have these mechanisms/institutions/facilities been affected by the crisis?

Sources: Focus group discussions, key informants, Venn diagramming, social mapping.

Physical and economic infrastructure available to affected populations

- Shelter and public spaces: What kinds of houses are there (roof, wall and floor types)? Are there any public spaces (faith-based, markets, recreational)?
- Transport and communication infrastructure.
- Market provision.
- Grinding mills and other food processing infrastructure.
- How do the facilities provided for the affected population compare with those of the host population? To what extent are facilities shared?

Sources: Observation, mapping, focus group discussions.

Financial and physical assets

- Savings in cash or kind: stock, savings, small livestock, jewellery.
- Productive and physical assets: agricultural equipment, tools required for income generation activities.
- Consumer assets: furniture, household utensils and processing equipment.
- How have these assets been affected by the crisis? What accumulation, savings, reinvestment mechanisms are still functioning?

Sources: Semi-structured household interviews, household survey data, and observation.

Human assets

- Labour availability: dependency ratio, seasonal availability.
- Health and nutritional status (see also Brief 2 on conducting anthropometric surveys).
- Skills and knowledge: practical (e.g. mechanics, electrical repair, construction), business, social and counselling skills.
- Are these assets under threat owing to the crisis (e.g. loss of knowledge transfer mechanisms for indigenous technical knowledge, child caring practices, etc.)?

Sources: Semi-structured household interviews, household survey data, demographic and health surveys, health facility data, observation, focus group discussions.

Livelihood strategies

Agriculture

- What food and cash crops are grown (field crops, vegetables, and fruits)? Include main season/s and dry-season production, if applicable.
- What average areas of different crops are cultivated by different types of households (wealth, status)?
- Are there gender and age differences with respect to type of crops cultivated and land use?
- What are the average yield estimates for different crops?
- How does production this year compare with that for the previous year and a "normal" year?
- What are the main types of agricultural tools and equipment (e.g. hand, draught, mechanized)? Are these owned or borrowed? Which tools and equipment does the household have, and in what condition are they? Can tools/spare parts be manufactured/purchased locally?
- How do households obtain seed for the main food and cash crops (e.g. through retention, purchase, borrowing, exchange, government/NGO distribution)?
- What are the local seed conservation practices?
- Do households use fertilizers, pesticides etc? How are these obtained?
- What are the main crop pests and diseases?

Sources: Key informants, agricultural census, government and NGO reports, household survey data, transects, mapping, focus group discussions, semi-structured household interviews.

Livestock

- What livestock and poultry raising activities are practised? Are there any differences by type of household?
- Who herds animals? Do households jointly herd/kraal animals?
- Is there any transhumance or migration of herds at different times of year?
- What is the average off-take for different species? When do households sell?
- Who controls the use of animal products for consumption and sale: milk, meat, eggs and hides?
- Have there been changes in the availability of or access to dairy, meat and poultry products for different family members?
- What are the main diseases and constraints for livestock and poultry production?
- What are the main livestock and poultry diseases? What interventions are in place to prevent and control these?
- How has the crisis affected livestock practices and holdings?

Sources: Key informants, livestock census, household survey data, transects, mapping, focus group discussions, semi-structured household interviews.

Income sources

- Income sources: ranked for different socio-economic groups and by gender.
- Typical income for different activities, and seasonal pattern: casual labour, charcoal production, water collection, petty trading.
- What proportion of cash income comes from sales of own food and horticultural production?
- At what time of year is income from the sale of cash crops received? What is the average income from cash crops, and who controls it?
- What are the other sources of cash income (e.g. gifts, loans, remittances)?

Sources: Key informants, household survey data, transects, mapping, seasonal calendars, proportional piling, focus group discussions, semi-structured household interviews.

Other livelihood activities: seasonality, gender differentiation

- Formal employment: State, NGO, business, factory, transport.
- Casual employment: agricultural, transport, domestic. Are there seasonal patterns?
- Petty trading: What commodities are traded? Who is involved? What are the links with markets and wholesalers?
- Preparation and sale of local alcoholic and non-alcoholic drinks: palm wine, beer, spirits.
- Forest-based enterprises: timber, collection of wild fruits, nuts, honey, etc.
- Fishing.
- Hunting, gathering: fruits, nuts, honey. What proportions are consumed and sold?
- Charcoal production and fuelwood collection.
- Collection of materials for house construction: poles, thatching grass.
- Brick making, house construction.
- Carpentry, mechanics, metal working, radio/TV/fridge repairs.

- Preparation and sale of snacks/food items.
- Service industries: water collection, portering, domestic tasks.
- Artisan mining: stone, precious/semi-precious gems.

Sources: Key informants, household survey data, transects, mapping, seasonal calendars, proportional piling, focus group discussions, observation, semi-structured household interviews.

For different types of small businesses or livelihood enterprises

- Who is involved?
- Capital required.
- Inputs needed: nets, traps, beehives, oil extraction equipment.
- Market for commodity or skill.
- Average earnings per day/week.
- Seasonality of income.
- Stability/security of employment.
- Savings, credit and banking mechanisms.

Sources: Key informants, household survey data, business and enterprise survey data, seasonal calendars, proportional piling, focus group discussions, observation, semi-structured household interviews.

Household expenditures

- What proportions of cash expenditure/income are spent on staple foods and other foods? Are there seasonal differences?
- What are the other main household expenditures, and what proportion of income is spent on them (e.g. health, tools, shelter, education, social obligations)?

Sources: Household semi-structured interviews, proportional piling, seasonal calendars.

Market assessment and formal and informal trade and procurement mechanisms

- What markets/shops are there? How far away?
- What transportation facilities are there?
- How accessible and safe are market facilities for the elderly, disabled, children and women?
- Availability and quantities of different products: essential food and non-food items, tools, livelihood inputs (e.g. seeds, veterinary drugs, fishing equipment, spare parts).
- Prices of key products, and terms of trade between locally produced goods and manufactured items.
- Flow of products to and from market.
- Number of petty traders and distances travelled.
- Traffic density: number of lorries/day/week.
- Casual labour rate: Are there differences for IDPs and refugees, women? Are there different rates for different tasks? How do these compare with rates for cash-for-work programmes?
- Distance to next larger market, and linkages to large-scale traders and regional and global markets.
- Cost of transporting “product x” to next market.

- Are food and non-food relief commodities sold in the market? What are the impacts of this on the prices of locally produced commodities and on local agricultural production? Does local purchase of relief commodities increase local inflation?

Sources: Market information systems, observation, focus group discussions, semi-structured interviews with key informants.

Household utilization of food

- Sources of food: production/livestock/purchase/wild food, food aid, payment in food, gifts, loans, remittances, etc. Are there seasonal differences?
- How many months do staples (main and supplementary) last in a normal year? Current household food stocks.
- In which months of the year is staple food normally purchased?
- Are there seasonal differences in the availability of micronutrient-rich foods?
- Has the crisis affected the availability of micronutrient-rich foods?
- Sources of cooking fuel and cooking utensils.
- Processing and storage practices for different products: equipment, knowledge.
- Food hygiene practices: storage, processing, preparation, consumption.
- Food consumption habits and practices: definitions of "meal" (e.g. does it have to include a particular staple?) and "snack"; normal composition of typical meal by season.
- Meal frequencies for adults, youth and children.
- Frequencies of consumption of different foods.
- Who allocates food to different family members? Who is served first and last?
- What happens to leftover food?

Sources: Semi-structured interviews, seasonal calendars, observation, survey data.

Caring practices

- What were the breastfeeding practices before the crisis? Did many mothers feed artificially (especially in urban situations)? Are breastmilk substitutes and feeding bottles readily available?
- What complementary feeding practices were there before the crisis? At what age are semi-solid foods normally introduced? What are they? Are special foods used for young children?
- Who looks after small children and infants? Who feeds them?
- Are pregnant and lactating women, older people and people with disabilities recognized as having special needs? How are these met and are there any constraints as a result of the crisis?
- How are chronically sick members of the household cared for (nutrition, personal hygiene, socio-psychological support)? Are these practices still possible? What are the constraints?
- What happened to the community before, during and after the emergency?
- How did people deal with trauma, loss, grief and mental illness before the emergency?
- Is support available for the treatment of post-traumatic disorders?
- Is self-reliance being facilitated?

- Is there support for mothers to stimulate apathetic children?
- Is there learning and/or are there organized play activities for pre-school children?
- How are orphans and single-parent families supported by the community/external organizations?

Sources: Focus group discussion, semi-structured interviews, observation, key informants, KAPP surveys, government and agency reports.

Water and sanitation

- What are the main sources of water: e.g. open wells, boreholes, rivers?
- What are the distances from these (time)?
- Are there seasonal changes in quantity and quality?
- Are there different sources of water for drinking, food preparation, washing and agriculture?
- Are the locations of water sources secure for women and children?
- Do households pay for water? What is the cost?
- How is water stored in the household?
- What happens to waste water?
- How is water for drinking treated? Is this for all family members or only some?
- What are the practices regarding defecation?
- What is the sanitation provision? What are the proportions of households with latrines, and rubbish pits?
- Is grey water or night soil used in agricultural production?

Sources: Focus group discussion, semi-structured interviews, observation, key informants, mapping, government and agency reports.

Health and infection

- What are the most frequent illnesses by season for adults and children? Has this pattern changed as a result of the crisis? Have there been reported outbreaks of specific diseases (measles, cholera)?
- What are local perceptions regarding the causes of most common diseases (e.g. malaria, diarrhoea, malnutrition, scabies) and how are they treated?
- What health services are available: immunization, antenatal, child welfare, family planning, gynaecological, STD, TB, HIV/AIDS counselling and testing services, mental illness/trauma?
- What is the distance/time to medical assistance, and what are the costs?
- Are there community health workers, e.g. trained birth attendants, growth promoters, malaria agents?
- Where are basic drugs, medical supplies, contraceptives and condoms available (e.g. government clinics, NGOs, private pharmacies, markets)?
- What is the estimated measles immunization coverage in the affected population?
- Are there estimates for crude and under-five mortality rates?
- Are there estimates of HIV/AIDS prevalence?
- Have there been environmental changes that might increase the risks of malnutrition and infection (e.g. temperature, malarial zone, flooding)?

Sources: Demographic and health surveys, health facility records, key informants, seasonal calendars, government and agency reports.

Nutritional status

- Wasting and stunting rates of children under five.
- Adult nutritional status, including pregnant and lactating women and older people.
- Micronutrient deficiency diseases: scurvy, pellagra, vitamin A deficiency, anaemia, beriberi, riboflavin and iodine deficiency diseases.
- How has the situation changed as a result of the crisis? How does the situation compare with that of the host population?

Sources: Demographic and health surveys, health facility records (under-five clinics), surveillance system data, nutrition survey data, feeding programme data, key informants, observation.

People's own perceptions of their food and nutritional problems

- What are the local terms for food insecurity and hunger?
- Are there gradations that reflect severity?
- What are the local terms for and the perception of malnutrition and its causes?
- What are the local beliefs relating to foods (e.g. which foods are considered especially good, or to be avoided in certain circumstances)?
- Are there differences in these perceptions within the area (by socio-economic, gender, ethnicity, status, etc.)?

Sources: Key informants, focus group discussions, knowledge, attitudes, perceptions and practices (KAPP) surveys.

Coping and crisis strategies

- What do households do when they have no food or when it becomes normal to purchase food?
- How do households differentiate among livelihood, coping and crisis strategies?
- Within the household, who undertakes and/or is affected by different coping and crisis strategies?
- Do households undertake activities that are degrading, irreversible or threatening to an individual's well-being or the future sustainability of household production and income activities (e.g. commercial sex or sexual favours, begging, stealing, sale of productive assets, bondage/slavery, forced early marriage)?
- Are there community-level coping strategies? Have these been affected by the crisis?

Sources: Semi-structured interviews, focus group discussions, observation, government and agency reports.

Checklist for food quality and safety in flood-affected areas

The following checklist has been developed to assist the identification of food safety and quality issues in flood-affected areas.

Has the pattern of food-borne disease changed significantly in the aftermath of the flood (e.g. types of infection, geographical distribution)? If so, explore the causes. Interviews with health care officials and household members, as well as available hospital or clinic records, may be useful information sources.

Availability of potable water. What is the quality of the water available for use in households or other major food processing/preparation locations? This has important implications on food safety, and not only in terms of direct water consumption; water is used in many food preparation and processing operations. The use of contaminated water in agriculture can represent a risk when fruit or vegetables are eaten raw.

- Have public information services been adapted to deal with the emergency situation?
- What is the level of understanding about the dangers of using contaminated water and about the measures that should be taken to prevent disease (among local health professionals and in the general population)?
- What measures is government taking to ensure a safe water supply in the post-flood period?
- What constraints are there to treating water in the home or factory before use (e.g. availability of fuel for boiling the water before use, availability of suitable utensils)?

Is there adequate knowledge of and adherence to hygienic practice in the preparation of food?

- Have consumer education programmes been adequately adapted to minimize the risk of food contamination in the prevailing post-flood conditions?
- What plans are there in this regard?
- Do social factors impede the maintenance of acceptable hygienic practice?

Have food control resources and procedures been adapted to the current reality?

- Where does the food come from? Have there been major changes in organization of the food supply, such as higher reliance on imports from unfamiliar sources?
- Are inspection, analytical and other resources being reallocated according to the perceived risks from the food supply that face the population? The Ministry of Health and the Department of Preventive Medicine could be sources of information.
- Are there problems/disruptions along the marketing/distribution chain that might introduce food safety risks (bacterial or mould growth)?

Have new food storage/processing problems emerged as a result of the post-flood conditions?

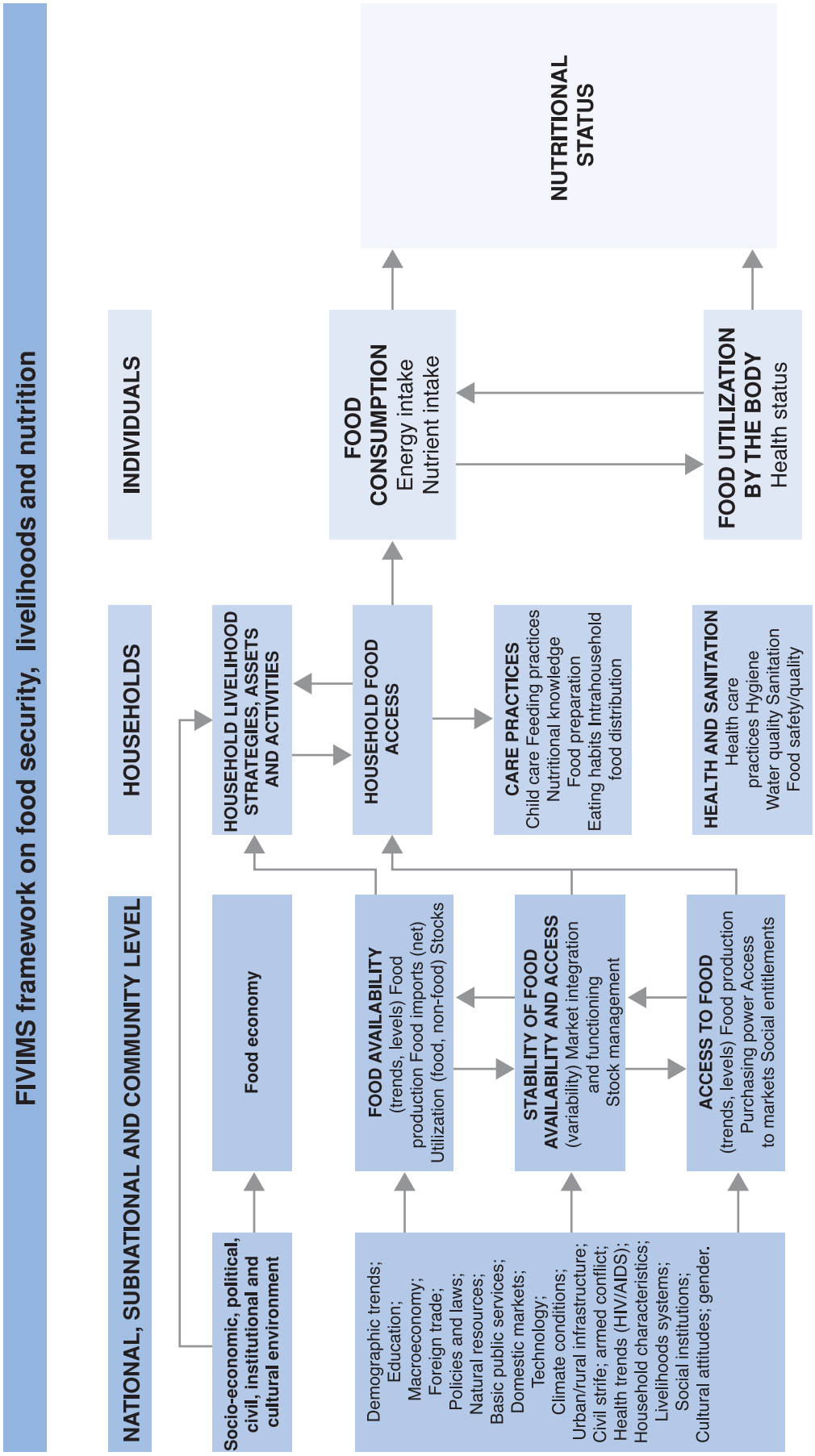
- Has increased environmental humidity created problems in food/grain storage? Are existing storage facilities adequate to maintain grain in a satisfactory condition (at the household, village and larger-scale levels)? Are mould growth and mycotoxin production significant hazards?
- Are there greater problems with storage pests, and how are these being dealt with? Are the use and control of pesticides adequate?
- Are extension staff and information programmes providing advice on adequate storage containers and practices under the prevailing conditions?
- Are flood-damaged but operational food processing facilities meeting acceptable codes of good hygienic practice?

Have there been changes in agricultural practices that might introduce hazards into the food chain?

- Have there been changes in the availability and distribution of agricultural inputs that might give rise to the adoption of unacceptable practices (e.g. the use of sewage as fertilizer, the incorrect use of pesticides)?

Figure 6 provides an example of a livelihoods model that can help in visualizing the relationships among different livelihood strategies and their outcomes.

Figure 6: Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) framework on food security, livelihoods and nutrition



Source: www.fivims.org/index.jspx

Brief 2. Anthropometric surveys

Anthropometrics is the physical measurement of the human body. Anthropometrical surveys are commonly used in situations of food scarcity. They are useful for:

- assessing the overall severity of nutritional stress in a population; they can also help to predict how the problem will evolve if no action is taken, because anthropometrics provides strong predictors of mortality and morbidity;
- informing and prioritizing resource allocation and the urgency of the intervention;
- advocacy and documenting the overall effort of the humanitarian community using trend analysis;
- assessing the requirement for and design of feeding programmes;
- further investigation when surveillance or programme data have flagged a problem;
- (for surveys undertaken prior to an intervention) providing baseline data against which to measure future changes.

Choice of anthropometric indices

Data on weight, height, mid-upper-arm circumference (MUAC), the presence of bilateral oedema and age can be collected from population-based surveys or facility-based health information systems. Anthropometrical indices are derived from combinations of these measurements, and are compared with a reference group from a healthy, well-fed population to determine whether an individual deviates from the mean or median value for the reference population. Different indices show different forms of malnutrition, for example, wasting, stunting or underweight.

The choice of index to use depends on the purpose of the survey and on practical constraints. Weight for height (WFH) is the most appropriate index for assessing short-term changes in weight. Where age cannot be reported accurately (as is the case in most emergency situations), WFH and MUAC are the only options.

It is often assumed that the anthropometric status of children of six to 59 months can be used as an indicator of the nutritional status and/or food availability for the whole community. This assumption cannot always be fully justified as children can become malnourished for reasons other than lack of food *per se*, such as inadequate weaning practices. Knowledge of local patterns of disease and intra-household food consumption is needed. Furthermore, both dietary and anthropometric data show that parents usually try to protect young children from malnutrition, at a cost to their own health in times of food insecurity.

However, it is convenient to use this assumption in relief and rehabilitation settings, because the best method for assessing malnutrition in older children and adults is still not clear.[8]

The following indices are those most often used in emergencies:

- ***Weight for height*** (WFH) is the most common index used in nutrition surveys of children under five because it reflects failure to gain weight, or loss of weight, and therefore recent adverse conditions leading to "wasting", or "acute malnutrition".
- ***Low height for age*** (HFA) ("stunting" or "chronic malnutrition") reflects a failure to gain height, and so represents an integrated record of all past experiences.

[8] There has been a growing interest in adult anthropometry as severe adult malnutrition has been seen in famines such as those in Somalia 1992, Angola 1993 and the Sudan 1998. Adult malnutrition may provide an early guide to which households and communities are at nutritional risk.

- ***Weight for age*** (WFA) cannot distinguish tall, thin children from those who are short and of adequate weight; however, it has been found to be a powerful indicator of mortality risk.
- ***Mid-upper-arm circumference*** (MUAC) reflects recent weight loss. It is most often used as an initial screening tool when time is limited and/or equipment (scales) are not available.[9] The World Health Organization (WHO) recommends using reference values to transform arm circumference measurements into MUAC for age/height.
- The ***QUAC stick*** measures arm circumference and relates it to height. The height of a nutritionally healthy child should correspond to a minimum arm circumference. This procedure is only practical for children of at least two years of age, who can stand to be measured. ICRC uses the QUAC stick for nutrition surveys.
- For adults, the ***body mass index*** (BMI) is the equivalent of the weight for height indicator in children. It is calculated by dividing the individual's weight in kilograms by his or her squared height in metres. MUAC can also be used as an alternative, quicker method for screening adults.

Indicators and cut-offs

Observed measurements can be related to the reference in different ways:

- percentage of the median of the reference population;
- in relation to the centiles of the reference distribution;
- Z-score (standard deviation units).

A combination of the indice and a cut-off point becomes an indicator. A commonly used cut-off for WFH, WFA and HFA is "-2 Z scores", i.e. 2 standard deviation (SD) units below the reference mean. It is recommended (WHO, 1986) that malnutrition in individuals be classified using Z-scores for the analysis of survey data. Percentage of the median of the reference population represents different standard deviations depending on the age of the child. Z-scores are statistically more precise, and can be consistently applied for all indices. However survey data should also be presented as percentages of the median when they are to guide decisions about interventions. Percentage median reference WFH is better correlated with risk of mortality, and should be used as an entry criterion for feeding programmes.

WFP

To save time, some agencies recommend combining the two indices in a two-tier system for screening for referral to feeding programmes

[9] Although MUAC might appear to be an easy measurement, small errors in measuring technique can make a great difference to survey findings. Care must therefore be taken to train and supervise staff properly. For this reason, MUAC should only be used for quick screening and rapid assessments of situations, in order to determine whether a survey using WFH needs to be carried out. To save time, some agencies recommend combining the two indices in a two-tier system for screening for referral to feeding programmes. MUAC is supposed to select higher-risk children for the more time-consuming measurement of WFH. However, this practice is not recommended as there is poor overlap between the groups identified by low MUAC and those identified by low WFH (Bern and Nathanail, 1995). Unless a high cut-off for MUAC is used (which would not save much time), many children with low WFH will be missed.

Table 1 illustrates indicators and cut-offs[10] for malnutrition in children and adults.

Table 1: Indicators and cut-offs for adults and children under five years

	Adequately nourished	Moderate malnutrition	Severe malnutrition
Oedema	No	No	Yes
Weight for height	≥ 80% median ≥ -2 Z scores	70–79.9% median -2.1 -3 Z scores	< 70% median < -3 Z scores
Height for age	≥ 90%	85–89% median -2.1 -3 Z scores	< 85% median < -3 Z scores
Weight for age	≥ -2 Z scores	60–80% median -2.1–3 Z scores	< 60% median < -3 Z scores
Middle-upper-arm circumference (children 6–59 months)	≥ 12.5 cm	11.5 to 12.4 cm	< 11.5 cm
MUAC Men Women	 ≥ 230mm ≥ 220mm	**Undernourished** 229–200 mm 219–190 mm	**Severe wasting/extreme wasting** 199–170 mm < 170 mm 189–160 mm < 160 mm
Body mass index Adults: 20.0–59.9 years	≥ 17	16.9–13 BMI	12.9–10 BMI < 10 BMI

Results from surveys that use different indices and/or cut-offs are not comparable, even though the same terms ("moderate", "severe") are used to classify malnutrition. When measured on the same children, MUAC gives the largest estimates for the percentage of children who are malnourished, followed by Z-score for WFH, while percentage of the median WFH gives the lowest estimates. It is therefore always important to specify which indicator has been used.

Levels of wasting in non-emergency conditions vary greatly across populations. There is therefore no single criterion for deciding the severity of prevalence of wasting at the population level. In Latin America, the usual prevalence of wasting (below -2 Z scores WFH) is about 2.5 percent, while among children in Africa it is 5 to 10 percent in non-drought situations. For guidance, a prevalence of 20 percent wasting indicates a serious situation, and more than 40 percent indicates a severe crisis.

Mean BMI in non-emergency conditions also varies greatly across populations. Cut-off points seem to imply different impacts for men and women in terms of risk of illness and death. It is also not clear whether the same cut-off points should be used for all age groups (e.g. adolescents and the elderly) and ethnic groups. Although for simplicity a cut-off point of 16 or 17 has now been accepted as indicating wasting in an individual, there is no guidance for the prevalence value that indicates the existence of a serious situation at the population level. BMI is thus mainly useful for assessing trends over time within the same group, and for identifying those individuals who are most vulnerable in a population group. This is also true for MUAC measurements in adults.

Design of anthropometric surveys

The planning of a formal survey requires knowledge and experience of survey design, sampling and statistics, and cannot be done without technical expertise. Implementation of the survey requires teams of people who are literate, numerate and accurate in their

[10] The cut-off of -2 Z scores is not immutable, but a standardized method of presenting data makes comparison and advocacy easier. Cut-offs can be varied depending on the available resources.

measurements. A nutrition survey should only be undertaken when these skills, and a period of at least two weeks, are available, as it is better to have no data than poor survey results that do not reflect the real situation.

In emergency situations, it is recommended that a random two-stage cluster sampling methodology is used, i.e. 30 clusters x 30 children. If support from a statistician is available, a different sample size could be calculated. All children in a household should be measured, and the presence of bilateral oedema should be checked. If mortality data are being collected, the sampling methodology should be 30 clusters x 30 households, and households without children under five years should be included for mortality and other data collection.

When conducting a nutrition survey, it is common practice to collect additional information by means of a short questionnaire. This can provide data on household demography, morbidity, access to clean water supply, sanitation provision and food access. These data allow the cross-tabulation of key variables in order to determine the possible determinants of malnutrition.

Interpretation of anthropometric data

Data collected from health centres cannot indicate the prevalence of malnutrition in the whole population, because the individuals who visit a health centre are self-selecting and the results may be biased, reflecting the situation of either the population with access to the health facility or those who visit the health facility because they are ill.

If different surveys have used the same methodology, sample size, indices and cut-off points, their results can be compared for trend analysis, or to study regional variations.

Interpretation of anthropometric data should take the following points into consideration:

- Standardized techniques should be used for sampling, measurements and the detection of oedema. Otherwise the findings cannot be considered reliable.
- Use of WFA and HFA indices should only be used in situations where it is possible to assess children's ages accurately.
- The weight measurements for children with oedema should not be included in the calculation of WFH and WFA indices. Instead, oedematous cases should be included in the category classified as severely malnourished.
- The timing of the survey should consider the agricultural cycle. There are often great seasonal differences in the prevalence of malnutrition depending on the stage of the agricultural cycle and the prevalence of disease.
- Out-migration of destitute families and excess mortality may distort figures and disguise deteriorating circumstances.
- When comparing different surveys, the samples included should cover similar proportions of individuals of different ages. If not, the results cannot be compared, because the prevalence of malnutrition varies among age groups (e.g. wasting is generally more common in children of 12 to 24 months than for other age groups, as this is the age of weaning).
- Survey results should be compared with normal rates of malnutrition in the population before the crisis. The significance of a particular prevalence rate of malnutrition in terms of illness and death will depend on what is considered normal in that particular context.
- Malnutrition rates may differ considerably, even among different ethnic groups living in the same environment.

- There do not appear to be guidelines on how to interpret anthropometric data for children under five years in populations/areas with high prevalence of HIV/AIDS.
- Nutritional survey data should be interpreted in the context of food security (access to food at the household level, and its distribution and use within the household), agro-economic, health and mortality data.

Anthropometric data as indicators of food stress

Anthropometry as a measure of nutritional status can indicate poor food security at the household level. However, nutritional status is affected by other factors, apart from access to food, and it is not always an indication of a household's food security status. An individual may be malnourished through disease or poor hygiene education.

In an emergency context, however, it is very likely that a malnourished individual comes from a food-insecure household if the crisis has affected livelihoods and the ability to grow or purchase food through the normal channels. In some communities – e.g. in Darfur, the Sudan before the 1984–1985 famine (de Waal, 1989) and Wollo, Ethiopia during the drought of 1987–1988 (Kelly, 1992) – early coping strategies were to preserve food stocks and go hungry in order to protect future livelihoods. Anthropometric status could therefore be used as an early indicator of food stress.

The anthropometric indices that are the most sensitive to change are the best indicators of food stress (WFH in children, BMI for adults and MUAC for both age groups.)

When assessing the severity of a nutritional problem, anthropometric data and rates of clinical deficiencies, mortality and morbidity should be considered. Some guidance for the interpretation of rates is given in the following subsection, but there are no universally applicable rates to define the severity of a situation; trends in these indicators are more useful.

Prevalence rates indicating serious nutrition and health problems

Levels of wasting

- Prevalence rates of 5 percent are usual in African populations in non-drought periods.
- Greater than 20 percent indicates a serious problem.
- Greater than 40 percent indicates a crisis that is out of control.

Levels of severe wasting

- Greater than 5 percent indicates a serious problem.

Crude mortality rate

- 0.3 to 0.5 per 10 000 per day is considered normal in developing countries.
- More than 1 per 10 000 per day indicates a very serious problem.
- More than 2 per 10 000 per day indicates an emergency that is out of control.
- More than 5 per 10 000 per day indicates a catastrophic situation.

Under-five mortality rate

- Fewer than 1 per 10 000 per day is considered normal in developing countries.
- More than 2 per 10 000 per day indicates a very serious problem.
- More than 4 per 10 000 per day indicates an emergency that is out of control.
- More than 10 per 10 000 per day indicates a catastrophic situation.

Case fatality rate

- Cholera: More than 2 percent indicates a very serious problem.
- Diarrhoeal disease: More than 1 percent indicates a very serious problem.
- Dysentery: More than 5 to 7 percent indicates a very serious problem.

Source: CDC. 1992. *Famine-affected, refugee and displaced populations: recommendations for public health issues.* MMWR, 41(RR-13).

Further reading and resources

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FAO/18438/P. Cenini

Close-up of a mother with her child

Brief 3. Rapid appraisal techniques

In an emergency situation, information is needed rapidly, and so qualitative data collection techniques are a particularly useful tool for understanding the key issues and processes. A rapid appraisal can provide decision-makers with timely and relevant information. It adopts a systematic field-based approach and direct interaction with the local community. Rapid appraisal methods are an advantage when security considerations do not allow a team to remain in an area for long. However, the potential unreliability of informally gathered material must always be borne in mind – particularly if cross-checking is problematic (e.g. in southern Sudan; Young and Jaspars, 1995).

Principles of rapid appraisal methods

Triangulation: Accuracy is achieved through gathering diverse information from different kinds of sources. For example:

- data triangulation – the use of a variety of data sources in a study;
- investigator triangulation – the use of several investigators with different perspectives and from different disciplines;
- methodological triangulation – the use of multiple methods or techniques to study a single problem.

A multidisciplinary approach: Using a team with a mix of diverse skills, perspectives and gender should be followed.

Mixing tools and techniques**:** The sequencing and timing of these depends on the context.

Optimal ignorance and appropriate imprecision**:** Unnecessary detail or the collection of too many data should be avoided.

On-the-spot analysis**:** Analysis of the data and information gathered is an integral part of the fieldwork. The iterative process contributes to verifying the internal consistency of data, identifying data and information gaps, and narrowing the focus as the fieldwork progresses.

Descriptions of some rapid appraisal techniques and tools that are useful for food security and nutrition assessments are included in the following subsections. The choice of tool depends on the data or information required, and this brief should be read in conjunction with Brief 1, which provides guidance on developing checklists; for example, calendars can be used to collect data that require seasonal comparisons. A mix of techniques should be used to allow cross-checking and verification of information. These methods are designed to provide information quickly, and success relies to a large extent on the team members' interviewing and analytical skills and sensitivity. There is a literature that documents past experiences and provides advice. See the recommended further reading at the end of this Brief.

Introductory meetings protocol and ethical considerations

The objectives and purpose of the assessment should be explained in advance to key government officials and local leaders. The explanation should include the methodology that will be used, the time scale, and how the results of the assessment will be used. Care should be taken to avoid raising expectations, for example over food aid. If necessary, the translation and interpretation of key terms such as food security should be checked; for example, in conflict situations, "security" may be misinterpreted to mean military security. The right of confidentiality and the right not to participate in the assessment should also be explained.

Summaries of a selection of techniques and tools for gathering food and nutrition information

Examples of how these tools and techniques can be used in the emergency context are given in brackets.

Semi-structured interviews. Interviews are usually "semi-structured", meaning that they are informal, but guided. Only some of the questions are predetermined, and new questions or subjects that lead from earlier answers can arise during the interview. Informants with special knowledge or who hold positions of interest are identified and interviewed on a one-to-one basis about these topics. Key informants are usually asked to provide information about the area as a whole and differences within it. Semi-structured interviews with household heads aim to reach an understanding of the attitudes, perceptions and practices of that particular household.

(Ask NGO health staff about the main nutritional and medical problems of displaced populations.)

Examples of key informants: Village leader, head of women's cooperative, community health worker, agricultural extension officer, local NGO staff member.

Group interviews/focus group discussions. Local groups with particular characteristics (e.g. wealth, age, gender) or specific expertise or interest (fishers, petty traders, health service users) are invited to participate in an open-ended discussion on a stated topic. For example, a group of mothers at a clinic would be a good source of information about children's diets, while a group of farmers could discuss the constraints on food production. A facilitator is needed to stimulate and guide the discussion, and a note-taker to record the main points. For in-depth discussions the group should consist of fewer than ten people.

(Talk to women refugees about their use of food aid commodities.)

Examples of groups: Male farmers, female farmers, women heads of household, teachers, health workers, mothers' groups, fishers, informal groups at markets or health centres. (Depending on the culture, it may be advisable to meet men and women separately in order to avoid people feeling inhibited.)

Observations. These are any direct observations of objects, events, processes, relationships or people, and are recorded in note or diagrammatic form. Systematic observations of the situation, especially of individual, household and group behaviour, are a fundamental tool for cross-checking the information obtained from other sources.

(Observe what food aid commodities are sold in the market, and what people are buying with the proceeds. Observe rubbish pits to see what people have been eating, and what they throw away.)

***Resources maps*:** These are schematic representations of the area, which are drawn by a group from the area with the objective of obtaining an overview of all types of resources, such as water sources, health facilities, markets, cropping patterns, roads, grazing areas and forests. A map can help to identify different livelihood systems, population concentrations and security risks. Discussions around the map can help to highlight the diversity and similarity in an area, and contribute to the purposive sampling of villages to visit.

(Obtain a map of refugee camps showing sources of water and fuelwood, security risks, etc.)

***Transects*:** This tool builds directly on the resources map to learn more about the environmental, economic and social resources in a community. It is a one-dimensional map of a line cut through the area. Team members walk along the line with local people, recording their opinions and observations of differences in various features such as soils, crops, trees, wildlife, housing patterns, and livelihood and social activities.

(Obtain transects before and after a drought showing changes in land use and food sources.)

***Seasonal calendars*:** These are single or composite diagrams that illustrate inter-seasonal changes in factors of interest, such as climate, crop sequences, pests and diseases, wild foods, labour demand, prices, human diseases, social events, income/expenditure, and food consumption. They can be prepared by different groups in the population, such as women heads of household, landless labourers or landowning farmers, and they help to clarify periods of the year when there is nutritional stress, and what can be done to relieve it.

(Find out from drought-affected populations what their problems are in the hungry season. Identify periods of the year in which time is an important constraint.)

***Historical profile*:** This is a chart that summarizes events of great importance to the affected population. Often it is useful to do this with elderly people. The "origin" story of a group or area, can serve to underline power relations and tensions. In emergencies, the profile might cover a much shorter period and specific themes, because the situation can change so rapidly. Historical profiles can reveal successive displacements, epidemics, changes in food habits, etc.

(Ask refugees about major events that have affected their welfare, before arrival in the camp and since arrival. Historical profiles can show that droughts were recurrent events in the past, and further discussion can show how the population has been able to cope with these.)

***Time charts or daily action clocks (24-hour clocks)*:** These are diagrams that illustrate the proportions of the day spent performing different tasks. Different groups (form a separate focus group for each category) relating to occupation, age or gender place beans or stones in piles of different sizes corresponding to the proportion of their total working time spent on each task. Alternatively, a circular clock is drawn with different sized slices corresponding to the different proportions of time spent. Time charts help to identify the relative workloads between, for example, the elderly and the young, men and women, and the rich and the poor. This is also a useful tool at the beginning of an assessment to identify the best time to meet people in their homes, or where to find people at a particular time of day.

(Ask drought-affected farmers how they spend their day now and how they used to spend their day before the flood. Repeat the exercise with farmers' spouses. Alternatively, ask the women, men and/or elderly in refugee camps what their daily activities are and how much time they spend gathering fuelwood, queuing for water and food distributions, taking children to feeding centres, preparing food at home, caring for the young and elderly, etc.)

***Venn diagrams*:** These help to clarify the importance of local groups and institutions, the links among institutions, how close the population is to the different institutions, and who makes decisions. They can also help to identify implementing partners and potential conflicts of interest. Key institutions and individuals responsible for decisions are represented by circles of different degrees of overlap and distance from the group being interviewed. This provides insight into local perceptions of institutional control

and decision-making. It is useful to compare the diagrams produced by different groups and investigate the reasons for the differences.

(Identify who should/could be responsible for clean-up campaigns. Is there a community/social space where common issues can be discussed?)

***Other diagrams*:** These can represent flows or decisions to demonstrate hypotheses or summarize interview information. They can be problem trees, which summarize the information gathered and help identify solutions.

Proportional piling

***Preference or frequency rankings*:** Items are compared with each other; for example, problems are compared to see which are considered the most grave, or food types to see which are consumed most often or are most preferred. If there are more than two items, the results can be recorded on a matrix, and the number of times each item is preferred can be recorded in order to rank the different items. Alternatively, the ranking can be obtained directly, without pair-wise comparisons.

(Ask the beneficiaries of food aid distributions to rank food aid commodities in terms of taste preference, ease of cooking, and ease of sale.)

***Wealth rankings*:** Informants' perceptions are used to rank the households within a village or portion of a village into groups according to overall wealth. (It is easier to classify individuals into groups than to rank each individual in comparison with every other one.) There can be four stages in this:

- discussing local concepts of wealth, and identifying a local phrase or word to reflect wealth;
- drawing up a list of households;
- asking three or four key informants separately to divide the households into categories (e.g. rich, medium and poor);
- discussing what factors make a household become richer or poorer.

***Local-level workshops*:** These are open discussion sessions where research issues can be explored or results fed back to the community. Workshops can be managed as one single group, or the larger group can be broken up into smaller discussion groups with plenary feedback.

***Analytical workshops*:** These are sessions that bring people together (both the field team and outsiders) to review, analyse and evaluate the information gathered. Both plenary sessions and group work can be used to arrive at a consensus of opinion about the causes of problems and priorities for action.

Further reading and resources

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Brief 4. Developing a SWOT analysis

The strengths, weaknesses, opportunities and threats[11] (SWOT) analysis is a tool that may help to summarize, structure and evaluate the information gathered from a situation assessment and analysis. SWOT analysis aims at organizing this information in terms of strengths and weaknesses within a population group (for each livelihood group), and opportunities and threats coming from outside the group. Strengths and opportunities help a group; weaknesses and threats hinder it in addressing the food and nutritional problems that have been identified. The advantage of a SWOT analysis is that it makes it possible to look at both the positive and the negative factors and situations. By carrying out a SWOT analysis for each livelihood group, common factors can be identified, which can lead to the development of a "win–win" intervention strategy. Alternatively, potential tensions can be identified where conflict management or consensus building is required.

1. ***What are the strengths*** present within the group that help to address the situation/ issue being investigated? Strengths include the advantageous characteristics of a situation – the local potential, capacities, resources, experience, knowledge and successes.

2. ***What are the weaknesses*** present within the group that hinder efforts to address the issue being investigated? Weaknesses include the negative characteristics of a situation or issue, such as constraints, difficulties, problems, attitudes and shortcomings. What impact do these weaknesses have on the food security and nutrition situation?

3. ***What are the opportunities*** from outside the group that help it to address the issue being investigated? Opportunities include positive situations and factors that are out of the group's direct control. Although the group may sometimes seek to use opportunities to resolve problems, some opportunities are completely outside the control of the community, such as favourable prices or good weather. Why and how have these opportunities had an impact on the community's nutrition and food security situation?

4. ***What are the threats*** from outside the group that hinder its efforts to address the issue being investigated? Some threats are difficult or impossible for a population to deal with, such as environmental disaster or policies, but awareness about threats can lead to interventions that mitigate their impact when they do occur.

The following (Table 2) is an example of a SWOT analysis from Angola. This was used in conjunction with the problem tree in Brief 5 to develop a set of recommendations.

[11] Or constraints.

Table 2: Example of SWOT analysis from Libongos, Bengo, Angola

Food security	Internal factors		External factors	
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
Food availability				
Climate			- Favourable all year	- Unfavourable climatic change - Reduction in rainy period - Occurrence of storms
Natural resources	- Available throughout year	- Few people have ownership titles and licences - Insufficient availability of work tools - Inadequate knowledge concerning rights related to the exploitation of natural resources	- Increased availability of equipment and means from outside organizations	- Weak competition - Laws related to the exploitation of natural resources are not applied - Entry of external exploiters
Land	- Good availability		- Existence of irrigation systems - Possibility of outlets for irrigated produce	- Laws related to the exploitation of natural resources are not applied
Seeds and tools	- Availability of and access to planting material - Knowledge about seed conservation	- Tools are not available - Occurrence of pests and diseases - Low crop diversification - Loss of adapted qualities - Selection of seed unknown - Occurrence of viruses in cassava - Animal attacks (rats and wild pigs)	- Acquisition from the market - Use of disease-free planting material, and introduction of resistant varieties - Seed multiplication systems - Crop diversification	- Distribution of non-adapted varieties - Lack of appropriate implementation partner
Food access				
Income sources	- Sale of own agricultural production - Artisan fishing - Sale of fruits - Preparation and sale of fermented drinks - Sale of bread - Piece work - Collection and sale of coconuts	- Low production levels - Supply peaks/gluts - Insufficient knowledge about fruit processing and conservation practices	- Improved production systems - Improved system for catching fish - Potential to exploit other resources (fruits, honey)	- Reduced demand for products - Increased supply and reduced producer prices

Table 2: Example of SWOT analysis from Libongos, Bengo, Angola (cont.)

Food security	Internal factors		External factors	
	Strengths	Weaknesses	Opportunities	Threats
Food access (cont.)				
Purchasing power	- Relatively greater purchasing power	- Terms of trade between agricultural production and manufactured goods	- Added value to products	
Access to markets	- Easy access to markets	- Lack of local formal market	- Road communication - Improved market structure	- Disruption of access roads
Food utilization				
Preparation (fuel-wood and water)	- Fuelwood and water available close by	- Unhygienic food preparation	- Improved food preparation hygiene practices	- Population increase - Reduced available time for mothers - Irresponsible youth - Family separation
Processing	- Knowledge of processing methods for staple foods and palm oil - Skills for conserving fish and palm oil	- Unhygienic food processing practices	- Improved food processing practices - Increased quantities of products available	
Storage	- Basic knowledge about storage (grains, fish and tubers)	- Possible loss of products during storage.	- Improved storage systems	- Theft of stored products
Nutrition				
Dietary quality	- Extensive use of palm oil - Diet has regular source of protein (highest consumption of fish)	- Diet is not diversified - Low meal frequency - Few meals	- Diversified diet - Increased quantity of food - Increased number and frequency of meals.	- Alienation of positive food habits - Influence of urban practices
Nutritional knowledge	- Knowledge about conservation and processing of staple foodstuffs	- Insufficient knowledge about nutritive values of local products - Insufficient knowledge about infant feeding	- Improved knowledge about nutritional value of local products - Knowledge about preparation of improved child feeding	- Loss of positive nutritional knowledge

Table 2: Example of SWOT analysis from Libongos, Bengo, Angola (cont.)

Food security	Internal factors		External factors	
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
Nutrition (cont.)				
Infant caring practices	- Breastfeeding starts immediately after birth (including the colostrum) until 1–2 years	- Poor personal hygiene - Early introduction of water - Early introduction of semi-solid foods - Maternal malnutrition - Belief that diseases are transmitted via breastfeeding	- Improved maternal and infant care	- Alienation of positive caring practices
Health, water, social issues and education				
Health	- Use of traditional medicines - Implementation of polio eradication campaign	- Poor access to health services - High frequencies of illnesses (malaria, ARI, fevers, TB, skin diseases [scabies])	- Improved public health system	- Low investment in health sector - Proliferation of STD (HIV/AIDS, syphilis, etc.)
Water and sanitation	- Good water availability within 200 m	- Consumption of non-treated water - Few latrines - Disposal of rubbish in open air - Poor personal hygiene	- Education about traditional practices for purifying water for consumption - Education campaigns about hygiene and health	- Increased population density - Increase in illnesses caused by poor environmental hygiene
Social organization	- Mutual support for food sharing and funeral expenses - Presence of churches - Traditional social organization present	- Community organizations not officially constituted - Support mechanisms disrupted by the conflict	- Constitution of social and work organizations (fishers)	- Dual residence (in Libongos and cities)
Education/knowledge	- Presence of equipped primary schools - Presence of school teachers - Skills for constructing canoes	- Limited education level	- Restart literacy classes - Introduction of pre-school system	- Low investment in education sector - Canoe construction skills are being lost

Source: WFP Angola, 2002.

Brief 5. Developing and using a problem tree

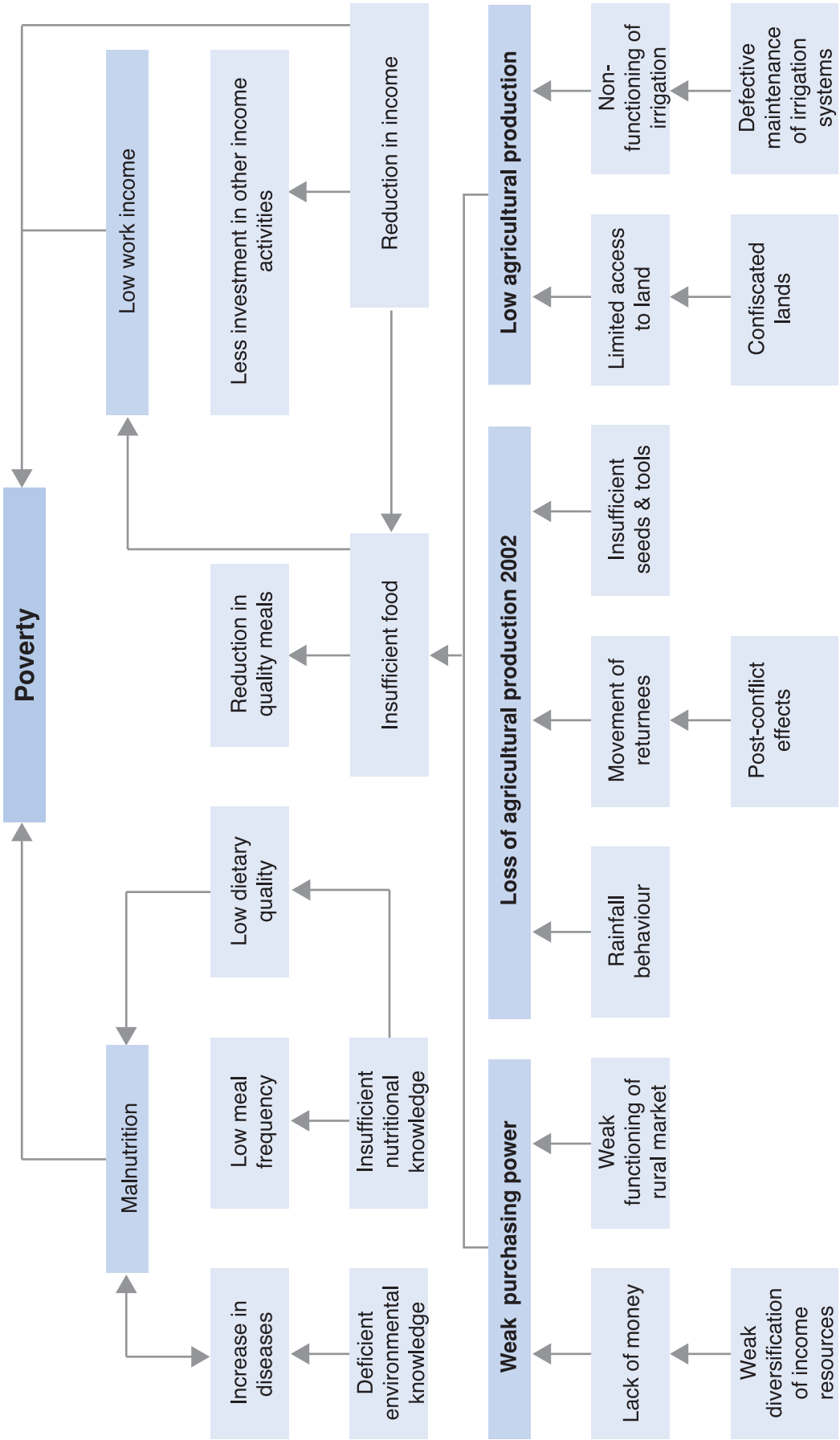
Nutritional problems have multiple causes. Part III showed how important it is to develop a holistic analysis in order to understand the interrelationships among causes and their impacts on different groups. This makes it easier to design appropriate actions. The assessment team, together with local groups, NGO representatives and government officials, must be able to summarize, structure and evaluate the information gathered from the needs assessment in order to identify key problems and agree on priority actions.

A problem tree can be developed for each livelihood group, showing the cause and effect linkages and the interrelationships among problems. For each problem, it is necessary to specify who is most affected, for example, individuals within households[12] (e.g. the elderly, orphans, the physically disabled, widows), households (e.g. single-headed households, households with small cultivated area) and population groups (e.g. returnees, IDPs). It is also necessary to consider how gender and age differences and relations influence the impact of these problems.

- The problem tree is constructed with the "trunk" showing the main problems, the "roots" showing the causes, and the "branches" showing the effects of the problems.
- A brainstorming process helps to identify the major problems to emerge from the situation assessment and analysis process. This normally generates many problems, which are not all of equal importance and therefore need to be ranked to identify the priorities. The problems are usually ranked by analysing the importance of each and considering which cause other problems.
- The problem statement should be formulated correctly in order to help identify the full range of causes. Problems should not be expressed as the absence of a solution (e.g. food is not available), but as an existing negative state (e.g. high levels of malnutrition in the population). It is therefore better to avoid the use of such phrases as: "lack of…" "insufficient…" "absence of…" and "no…".
- The main problem should be written in the centre of a flip chart (or cleared area on the ground). The causes of this problem can be written below as roots of the tree. Each of these causes may have its own set of sub-causes, which can also be written in. Above the main problem, the effects experienced as a consequence of it can be written in as branches. The effects should be expressed in a way that indicates who is affected and how they are affected.
- The completed tree will provide a visual representation of the main problem, its causes and effects, and the relationships among them.
- The next step is to identify the "focal problems" (causes of the main problem), which are sometimes called the "entry points". These are crucial problems whose solution can directly assist in eliminating the main problem.
- Often it is better to draw up separate trees for different livelihood systems or perspectives (age, gender, status).
- Focal problems or entry points can be prioritized and ranked through discussion, scoring and pair-wise exercises, and will involve trade-offs among the different perspectives of the various groups within the population

[12] Also note the extent to which their vulnerability depends on socio-economic background.

Figure 7: Bengo Province Angola, rapid assessment of food security and nutrition: problem tree



Source: WFP Angola, 2002.

Brief 6. Issues related to targeting in crisis situations

Targeting is a method of delivering goods and/or services to a select group of individuals or households, rather than to every individual or household in the population. The approach chosen for targeting must be consistent with:

- the objectives of the activity, and any technical constraints;
- the characteristics of the groups to be prioritized;
- the socio-economic and cultural characteristics of the population, and the political context;
- the available financial resources and local implementing capacity;
- location-specific experience and knowledge, including the different needs that men and women may have.

Targeting mechanisms can be divided into administratively targeted mechanisms, for which beneficiaries are selected by either an external agency or community-based structures, and self-targeted mechanisms, for which beneficiaries themselves decide whether or not to become involved in a programme activity. In practice, combined methods or a multi-stage process and multiple selection criteria are used, and may be more effective in overcoming the constraints raised in conflict situations.

Whatever approach or combination is selected, the objectives, rationale and criteria should be discussed with and publicized to the affected population.

Administrative targeting

Administrative targeting involves the selection of specific geographical areas, communities and/or households or individuals. Geographical targeting is normally done by programme planners and staff and can be based on a national or regional vulnerability mapping exercise. The selection of specific households or individuals can be done by programme staff and/or communities, on the basis of whether or not candidates meet defined criteria.

Self-targeting

In this approach, the benefits are accessible to all, but programme incentives are set in such a way that the non-needy elect not to participate. Self-targeting does not involve the selection of programme participants by an external entity. This approach may be appropriate in situations in which targeting can be considered a "solidarity-breaking mechanism".

The following are some examples of self-targeting:

- *Public works projects*, in which the wage (paid in food or cash) is less than the market rate. This maintains a spirit of "self-help", but not all vulnerable groups (e.g. female-headed households, the disabled, the elderly) may be able to take part.
- *Market-based targeting*, in which programme incentives are introduced through changes in market forces. This can include the supply of a nutritionally adequate but less preferred or low-status food (e.g. yellow maize rather than white maize in eastern and southern Africa, or bulgur wheat instead of rice in Sierra Leone).

The choice of location or distribution method is also a tool in self-targeting approaches. For example, if a distribution centre is located in a poor area, it is less likely to be attended by richer households, or if food is available through a soup kitchen, it might be less attractive than dry rations.

Ideally, self-targeting methods can work through and build on local traditional methods. Finding out what will work and what not can be reviewed with the population through consultation and cross-checking with various groups.

Targeting levels

Geographical. Only certain areas may have been affected by a disaster. Geographical targeting focuses on the poorest areas (using socio-economic criteria), or those identified as being at the highest nutritional and health risk. Vulnerability and poverty assessments and mapping using a range of information sources and indicators can be used to identify geographical areas that are vulnerable to food and nutrition insecurity.

Socio-economic/livelihood group. Not all population groups will necessarily have been affected by the disaster or civil conflict. Individuals and households can be selected using socio-economic criteria such as ownership of assets (land, animals, tools), access to an income or remittances, or livelihood group. Examples of socio-economic/livelihood groups are:

- unemployed, low-income households, or households that have lost the primary earner: e.g. female-headed households, households with a high proportion of small children;
- fishers who have no nets, or farmers with landholdings below a certain size;
- pastoralists with small herds.

Selection of households and individuals. This is normally done after a geographic area or livelihood grouping has been selected by an external organization. The selection of households and individuals is often part of a multi-stage targeting process. Choosing the most appropriate criteria is the key to minimizing inclusion and exclusion errors when potential beneficiaries are being screened. The identification of admission and exit criteria, and the selection of households or individuals can be decided by external organizations using, for example, needs assessment, survey data and registration points. Aid agencies may not be in a position to collect data on sensitive topics such as food production and deficits at the household level.

Community-based targeting. If local-level leadership structures are still intact, local representatives will have good knowledge of individual households' circumstances and can select the households to be covered by an activity. However, this method requires a mechanism that independently verifies the selected households, as payment is sometimes demanded before a household is included. Criteria are decided either by local decision-making structures alone or through negotiation and discussion between the implementing organization and the community. A community-based targeting approach is compatible with a participatory and capacity building philosophy, and benefits from the insider's perspective. However, it requires an assessment of local decision-making structures, an analysis of existing support mechanisms, and public participation and education, so it may only be fully feasible in situations of stability.

Disadvantages of this approach, which may be exacerbated in complex crises, include:

- the difficulty in determining who best represents the community;
- the difficulty in ensuring that disadvantaged groups, such as women or ethnic minorities, are given an equal voice in the decisions. There is often the danger that a programme does not reach the most needy adequately;
- reaching consensus between local leaders and members and between the local population and outside agencies regarding what constitutes a fair and equitable distribution of programme goods and/or services can be an arduous and time-consuming process;

- social pressures, or local political leaders' need to strengthen their power base may bias allocation decisions to the detriment of those who are relatively powerless and should benefit most from the programme goods and/or services;
- targeting criteria differ across location and population group, which makes programme management and administration more difficult at the central level, and there may be inconsistencies in the allocation of benefits;
- for many nutrition-related problems, the definition of need is technical, and reliance on community-based targeting methods alone may not always be appropriate;
- determinants of malnutrition vary by location and population/livelihood group, so the best indicators for predicting the risk of future malnutrition for screening purposes are also likely to vary.

Source: Adapted from: FAO, 2001c.

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The choice of location or distribution method is also a tool in self-targeting approaches

Brief 7. Strategies for establishing home gardening activities, and lessons learned from Africa and Asia

Gardening, or "food production in small quantities close to the house", enhances food security in several ways, most importantly through:

- direct access to a diversity of nutritionally rich foods;
- increased purchasing power from savings on food bills and income from sales of garden products;
- fall-back food provision during seasonal lean periods.

Households can use several strategies for ensuring continuous access to a variety of nutritious foods. Appropriate garden technologies are available to extend garden production and enable households to process and store perishable staples, legumes, vegetables and fruits, in order to extend their availability and enhance their marketing potential.

Key strategies

Plan improvements with the active participation of the community, and build on indigenous knowledge. This means identifying and assessing such factors as:

- the soil, climate and water availability;
- the types of crops that grow well;
- the foods needed for good family nutrition;
- family food preferences;
- appropriate planting dates to ensure the best possible yields of different crops;
- drought-tolerant crops if water supply is not reliable;
- seed availability;
- plants that are suitable for wet areas;
- access to technical support from field workers.

Identify appropriate improvements of the current food system to enhance variety and year-round availability, for example:

- introducing wider *diversity* of nutritious plants into the existing garden space, along with more effective management practices (e.g. soil and water management);
- opening up new spaces for special types of garden, such as *vegetable/kitchen gardens*, spices, herbs and medicinal plants, as well as for small animal raising, fish farming and the cultivation of indigenous green leafy vegetables;
- staggering planting dates to *ensure availability* of fresh foods for *most of the year*;
- setting up a *dry-season vegetable garden* close to a water source (e.g. riverbank, swamp or wetland) for harvesting vegetables during the dry season;
- introducing tree crops, such as *fruit trees*, that bear fruit at different times of year, as well as those that bear all year round (e.g. banana), and that produce fruits quickly (e.g. banana, papaya, guava), as well as those that produce more slowly (e.g. citrus, mango, avocado);
- introducing *indigenous and semi-cultivated plants* into the garden, such as amaranth, bitter leaf, cat's whiskers and blackjack. The advantages of indigenous plants are that they are well adapted to the areas where they are cultivated, they add variety to the diet and their nutritional contribution is significant;

- introducing *improved storage, processing and preservation techniques* (drying, curing, etc.);
- providing *information on the nutritional value of foods* and best buys, and educating parents on food preparation, child feeding, good hygiene and sanitation practices in the home.

Key lessons learned from garden promotion projects in Africa and Asia

Seed/plant material provision. Promote local varieties of indigenous species for which gardeners have experience of vegetative or seed reproduction, use and exchange. Minimize the distribution of purchased seeds, unless low-cost, accessible supplies are available for direct purchase by gardeners. Avoid the promotion of imported seeds that are not suited to local climatic conditions. They are often of poor quality and unfamiliar to local people.

Water supply. Various techniques have been developed for effective gardening in areas with overabundant or scarce water supplies. Gardens in high rainfall areas use raised beds, drainage canals, water-loving plants and plastic coverings, while dry gardens make use of mulching, ground covers and other water-conserving horticultural practices, the planting of drought-tolerant plants, the use of household waste water for irrigation, and seasonal gardening. In areas where water is of such short supply that gardening competes directly with basic household water needs or water collection requires too much time, it may be unreasonable to pursue vegetable gardening. A few perennial plants could be maintained, however.

Soil fertility/landlessness. Poor soil fertility or a lack of cultivable soil are limitations faced by many gardeners. Fortunately, a lot of applied research has been carried out on low-cost methods for improving soil fertility, such as composting, planting leguminous trees and cover crops, and terracing. Container and trellis gardening are options for families with no access to homestead land, as are local-level and school gardens.

Fencing. Promotion projects need to address the common problem of animal interference with gardening. Depending on the costs of fencing and the relative importance of livestock compared with plants, as well as family preferences, it may be better to enclose the livestock (chickens, pigs, goats) rather than fence the garden. Live fencing of the garden is an option that keeps costs down and obtains benefits from the fence plants.

Labour and input supply. In general, home gardens are more likely to be continued in the long term if input and labour requirements are low and flexible. A few days to establish the garden, and an hour a day for its maintenance are reasonable. More time and money will be invested if the gardens produce a regular marketable surplus. Projects cannot assume abundant family labour nor a low opportunity cost for family labour. Assess the household value of potential competing activities.

Integrating nutrition. The promotion of home gardening cannot be exclusively agronomic or nutrition-oriented as both concerns are fundamental and interrelated. Nutrition education is essential for ensuring effective linkages between garden food availability and consumption, and between consumption and bio-availability or absorption by the body. However, effective communication of nutrition is a two-way process. An assessment of the traditional diet, seasonal food shortages, food storage and cooking practices, intra-household food distribution and food taboos will provide important information for planning an appropriate nutrition education strategy.

Training. Field workers and men and women farmers need to be trained in both gardening techniques and nutrition. This ensures that gardens are planned to provide a year-round supply of nutrient-rich foods that are compatible with local taste preferences. Recipe

development and cooking demonstrations are helpful when introducing new foods, or when teaching harvest, storage and preparation practices that optimize the nutritional value of foods. In addition, families need to know what factors promote or inhibit the bio-availability of consumed nutrients (e.g. eating fruits that contain vitamin C to enhance iron absorption, including fat/oil crops in the diet to enhance vitamin utilization). Communicating these messages involves a creative process that evolves from participatory project design and implementation in each local context.

Recognizing the income generation and other economic benefits of gardening. It is counterproductive to impose the nutrition objective to the exclusion of the income generation objective, because both are linked and compatible in most gardening situations. Among the urban poor, gardening generates income during hard times, and income or purchasing power is an important element of food security where households cannot be self-sufficient in food needs.

The multiple economic benefits of home gardening, include:

- returns on land and labour that are often higher than those of field agriculture;
- the dual benefits of food provision and income generation, including savings from purchased foods;
- the provision of fodder for household animals and supplies for other household needs, such as handicrafts, fuelwood, furniture and baskets;
- household processing of garden fruits and vegetables increases their market value and ensures year-round supply;
- the marketing of garden produce and animals is often women's only source of independent income.

Understanding women's and children's roles in gardening. Women's role in gardening varies by region and culture. Gardening is typically a family activity, involving women, men, children and the elderly, with some tasks carried out separately and others jointly. Men generally participate in the most physical tasks – bed establishment, fence building, well digging and tree harvesting – while women manage the day-to-day maintenance tasks. Women and children typically care for small livestock. The elderly play a special role in passing down traditional gardening knowledge to following generations, especially their understanding of the care and use of indigenous plants.

It is therefore important to involve the whole family in gardening promotion projects, even though emphasizing women's participation may be fully justified. There is also a need for caution regarding the assumption that women have unlimited time for gardening. Women will invest more time in gardening if the garden generates income as well as food for the family. In Africa, there is evidence that men take over the management and marketing functions when gardens become more profitable. Projects need to be aware of this risk and assist women to preserve the gains they achieve from gardening.

There is evidence that when gardens are controlled by women, both women and children are more likely to consume a larger proportion of the garden harvests. This is especially true if women are educated about the nutritional and health benefits of eating vitamin-rich foods daily, and the special needs of young children. Children benefit directly from home gardens as a nearby food source when their parents are busy for long periods in the fields. Children may also gather and sell garden produce for money to buy food.

Working toward an integrated strategy for improving food security

The most successful household gardening efforts in terms of food security achievements and sustainability are those that involve both the nutrition/health and the agriculture

sectors in an integrated approach. Equally important is the participation of both private non-profit organizations (NGOs) and government ministries, even when government is involved only in a facilitative role.

If small, isolated gardening projects are to be built up into effective regional and national efforts, governments must provide basic policy support (e.g. through public agricultural research and extension services, schools, health clinics and supportive land use regulations in rural and urban areas, including improved access to land by women).

FAO/23054/R. Grossman

A boy watering a vegetable garden

Brief 8. Estimating general ration needs per person, and calculating food aid requirements

Immediate food aid requirements (in particular for refugees and IDPs) are normally calculated on the basis of estimating the number of people affected and multiplying this by an individual daily ration. Calculations for estimating food aid requirements should also take into consideration the demographic profile and assumed level of activity among the affected population.[13] If there are high levels of malnutrition but food insecurity does not appear to be the major causal factor, targeted supplementary programmes may be necessary, in combination with interventions to address the location-specific determinants of malnutrition.

In situations where households are still able to continue some productive activities, food deficits are estimated for different wealth groups, based on an understanding of how households obtain food. This method is based on the household food economy approach developed by SCF-UK. It assumes that households are able to compensate for some food shortfalls through expanding their alternative food and income sources, or adopting coping strategies. This can be used for more effective targeting, and for justifying earlier food aid interventions, so that households do not need to resort to coping strategies that may erode future productive capacity and/or household well-being.

The following are the WFP/UNHCR guidelines for estimating general ration needs per person:

- ***Energy:*** 2 100 kcal/day.
- ***Fat/oil:*** a minimum of 17 percent of energy provided by the ration should be from fat. This means typically that 25 g of edible oil is provided per person per day.
- ***Protein:*** a minimum of 10 to 12 percent of the energy should be in the form of protein.
- ***Vitamins and minerals:*** the daily requirements of all essential micronutrients should be assured from the diet. The following are ways of ensuring an adequate supply, in order of preference:
  - promotion of vegetable and fruit production;
  - provision of fresh food items;
  - adding a food that is rich in a particular vitamin or mineral to the ration;
  - provision of fortified food (blended food);
  - provision of nutrient supplements.

The energy value of the ration should be changed in the following circumstances:

- The population has suffered severe food shortages and/or cases of widespread illness. (Supplementary and therapeutic feeding programmes should also be implemented in these situations.)
- Activity levels are high, for example during periods of heavy work.
- Environmental temperature is significantly below 20 °C.
- The age and gender composition of the population is unusual.

N.B. The Red Cross (1986) recommends a target ration of 2 400 kcal for an average population, in order to cover the nutritional needs of pregnant and lactating women, cold stress, physical activity, catch-up growth and losses during transport, storage and distribution.

[13] Average energy requirements of a population vary according to four main factors: demographic composition, physical activity level, body weight and environmental temperature. Computer software is available from FAO (ENREQ2) that takes these factors into account in a systematic way in order to calculate energy requirements for different groups.

Calculation of food aid requirements (per month)

Ration item (pppd) x Beneficiaries x Planning period x Transport loss adjustment

Ration item:	Individual amount of each ration item per person per day
Pppd:	Per person per day
Beneficiaries:	The projected average number of beneficiaries for the project
Planning period:	The duration of the feeding operation in days
Transport loss adjustment:	Add on percentage for losses during transport, storage and handling: country with port +5 percent; landlocked country +10 percent

Further reading and resources

WFP/UNHCR. 1997. *Guidelines for estimating food and nutritional needs in emergencies.* Rome.

WFP. 2000. *Food and nutrition handbook*. Rome.

Seaman, J., Clarke, P., Boudreau, T. & Holt, J. 2000. *The household economy approach. A resource manual for practitioners*. Save the Children Development Manual No. 5. SCF-UK.

WFP

Household at mealtime

Brief 9. Issues to consider when choosing food relief commodities

- Can the food be prepared, i.e. are cooking fuel and utensils available and affordable?
- If whole grains are being given, are there facilities for milling them? Are these facilities accessible and affordable to all those to whom the grain will be given?
- Where is the food aid coming from? Is it the same type of food as is produced locally? If so, will the sale of food aid in local markets damage local livelihoods by reducing the demand for local farmers' produce?
- Is it possible to buy the food aid in the country in a way that encourages both local production and commercialization?
- Is it possible to provide a micronutrient-fortified food for infants?
- Are there opportunities for encouraging the home preparation of weaning foods using local/indigenous foods?
- What are the opportunities for obtaining food other than the ration, and where does this food come from? For example:
  - local markets, refugee camp markets;
  - small home gardens for vegetable production;
  - wild foods, including wild animals;
  - exchange with or stealing from the local population.
- Will the population have to sell a part of the ration to obtain cash for other essential needs? For which items is there a good market? What are the nutritional implications?
- What are the quantity, quality, variety and safety of the present diet and the prior diet of the population? Does the proposed food aid fit in with existing food habits?
- Are the foods of good quality and safe for consumption?
- Can systems be set up to monitor problems such as pest infestation, contaminants and product age, and to exchange information among agencies?

FAO/19853/O. Argenti

Fruit and vegetable market

Glossary

Anthropometry: The physical measurement of the human body.

Complex emergency: A humanitarian crisis in a country, region or society where there is total or considerable breakdown of authority resulting from internal or external conflict, and that requires an international response that goes beyond the mandate or capacity of any single agency and/or the ongoing United Nations country programme (IASC, 1994).

Coping mechanisms: A short-term response to shocks such as an abnormal decline in access to food. A successful coping mechanism is reversible and should not incur unacceptable costs. Coping mechanisms may include alternative methods to obtain food or make money when normal sources of food are disrupted, for example borrowing cash or food, selling assets, collecting wild foods or migrating to a neighbouring area to obtain work. As times become more difficult, the relative importance of such coping mechanisms may change – some "normal" methods of obtaining food are reduced and others are increased. For example, migration may occur every year, but in a bad year more people may do it for longer periods.

Disaster: The occurrence of a sudden or major misfortune that disrupts the basic fabric and normal functioning of a society or community. An event or series of events that gives rise to casualties and/or damage or loss of property, infrastructure, essential services or means of livelihood on a scale that is beyond the normal capacity of the affected communities to cope with unaided (UNDP/UNDRO, 1991).

Events and processes that can cause disasters do not always do so. In addition, disasters do not always result in emergencies – it depends on whether support systems exist, and if so how effective they are. Disasters and the emergencies resulting from them may be recurrent or protracted, as they often have many causes. Although disasters are triggered by immediate events, there are usually underlying causes that interact with each other. Frequently, these relate to the natural environment, the economic environment or civil conflict. For example, the impact of a drought in a country already devastated by long-term civil conflict will be greater than in a stable neighbouring country. The underlying factors cannot be addressed by relief efforts alone, and other types of assistance are necessary, such as mediation to enable peace negotiations.

Early warning: Provision of early and relevant information on potential or actual disasters and their impacts.

Early warning systems for food security: Systems of data collection established to monitor a population's access to food in order to provide timely warning of impending crises and elicit the appropriate response. They may operate at the global, regional, national or local level. Other types of early warning systems can monitor river levels for flood risk, or pest or disease outbreak.

Emergency: An extraordinary situation in which people are unable to meet their basic survival needs, or there are serious and immediate threats to human life and well-being (UNDP/UNDRO, 1991).

Four types of emergency have been distinguished (Buchanan-Smith and Maxwell, 1994):

- *Rapid-onset:* triggered by natural disasters, such as earthquakes or floods. The crisis is usually temporary.
- *Slow-onset:* triggered by natural disasters, such as drought and pest attacks, they develop as a result of crop failure or livestock losses.
- *Permanent:* where there is a need for more or less permanent welfare owing to great structural poverty, e.g. in parts of Ethiopia and northern Sudan.
- *Complex political:* caused by civil war, e.g. Rwanda, Liberia, southern Sudan, Somalia.

Evaluation: The assessment at one point in time of the impact of a piece of work, the extent to which stated objectives have been achieved, and the processes by which this occurred.

General food distribution: The free distribution of a combination of food commodities, usually based on nutritional needs, to an emergency-affected population (WFP, 2000).

Household: Used interchangeably with the term "family" in this document to mean a group of people who live together and who form a unit for obtaining, preparing, distributing and eating food. The household is responsible for dealing with illness and child care.

Household economy approach: Originally developed by SCF-UK in collaboration with FAO's Global Early Warning Systems (GIEWS) as an attempt to indicate the likely effect of a shock, such as crop failure, on future food supply. Normally, estimates of food supply are made at an aggregate level and/or are based on administrative boundaries. The household economy approach enables a focus on food access rather than on food availability, and highlights how risks or shocks will have different impacts depending on the socio-economic status of households and their ability to expand or extend existing food and income sources to meet food shortfalls. The approach uses rapid appraisal-type techniques (key informants, focus groups, observation) and is particularly beneficial in crisis contexts where it is not possible to carry out extensive field-based surveys and where formal data collection systems no longer exist. In the absence of statistically representative quantitative data, different ranges of estimates can be used for each variable. Scenarios can be developed on the basis of clearly stated assumptions about a variety of factors and how they may interact to bring about an economic shock.

Livelihood: "Comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living; a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation." (Chambers and Conway, 1992).

Mitigation: Measures designed to reduce the likelihood that natural or socio-political events and processes result in disaster, or that disaster results in emergency once the situation starts to deteriorate. Mitigation activities are in some ways the mirror-image of rehabilitation activities – the former occur as conditions move towards crisis, and diminish the impact of a current disaster, while the latter occur as conditions improve, and diminish the impact of a preceding disaster.

Monitoring: Systematic and continuous assessment of the progress of a piece of work over time. Its purpose is to help all the people involved make timely decisions that will improve the quality of the work.

Nutritional status: A person's physiological level of nourishment in terms of energy and protein stores, micronutrient status and metabolic functioning. Indicators derived from anthropometric measurements are commonly referred to as "indicators of nutritional status", but in fact only reflect one aspect of it – biochemical measurements and inspection of clinical signs are also necessary to obtain a complete picture of nutritional status.

Nutritional well-being: The condition in which people are healthy and well nourished, and have the energy, creativity and security to live their daily lives with dignity and to contribute actively to their families, communities and countries. Nutritional well-being is fundamental to achievement of the full social, mental and physical potential of individuals and populations.

Participatory rural appraisal and participatory learning and action (PRA/PLA): An offshoot and development of rapid rural appraisal (RRA) that is designed to enable cumulative learning by all participants and the collection, presentation and analysis of data and information by the community members themselves. There is some overlap of methodology, but the role of the PRA professional is to facilitate, while in RRA outside professionals analyse the information obtained.

Preparedness: Measures to establish capacities and mechanisms that respond rapidly and effectively to disasters when they occur, so reducing the intensity or scale of any resultant emergency.

Prevention: Measures designed to prevent natural or socio-political events and processes from resulting in disasters. For example:

- crop and livestock diversification;
- pest and disease control;
- improved processing and preservation of crops;
- encouragement of small animal rearing;
- promotion of safe home-based food storage methods.

Rapid rural appraisal (RRA): Evolved in the 1970s as an alternative to formal sample surveys. It is based on informal data-gathering methods, introducing fast methods to generate primary data with minimal bias under severe time constraints. The idea is that rapid assessments make it possible to grasp the main points of the situation quickly, without the need for a full survey. The core features of rapid appraisals are interdisciplinary teamwork, substantial use of indigenous knowledge, "triangulation" (cross-checking) of information from different technical disciplines and formal and informal data sources, use of purposive sampling, flexibility, and use of conscious judgement.

Reconstruction: Measures to repair damaged infrastructure. For example:

- rebuilding irrigation systems;
- repairing roads;
- rebuilding houses.

Rehabilitation: Measures to help restore functional capacity and (re-)establish sustainable household food security. For example:

- distribution of agricultural inputs such as seeds and tools;
- food or cash for work;
- targeted food distribution;
- provision of agricultural inputs;
- livestock restocking;
- pest and disease control;
- nutrition and agricultural education.

Relief: The provision of assistance to save lives in the immediate wake of a disaster. For example:

- provision of clean water, shelter and health care;
- general food distribution;
- medical and nutritional rehabilitation of the severely malnourished;
- food or cash for work;
- nutrition and agricultural education.

Selective feeding programmes: The provision of food (in addition to a general distribution) to the nutritionally or socially vulnerable to save lives and/or prevent malnutrition (WFP, 2000).

Supplementary feeding programmes: Provision of nutritious food in addition to the general ration. They aim to rehabilitate the malnourished or prevent a deterioration of the nutritional status of those most at risk by meeting their additional needs, focusing particularly on young children, pregnant women and nursing mothers:

- *Blanket supplementary feeding*: Provision of a supplement to all members of particular groups, without checking their nutritional status, e.g. all pregnant women, all children under five years of age.
- *Targeted supplementary feeding*: Provision of a supplement to members of particular groups who satisfy certain criteria, e.g. pregnant mothers whose MUAC is below an agreed cut-off, children under five years of age whose WFH is between 70 and 80 percent of the reference median. The objective is to improve the nutritional status of moderately malnourished individuals. The supplement can be provided in a cooked form on-site (wet) or to take home (dry).

Targeted food distribution: Distribution of food to certain sections of the population only. In selective feeding programmes, food is distributed on the basis of individuals' characteristics, e.g. age, reproductive status, anthropometric status. Targeted food distribution in intended to address certain groups' needs that differ from those of the majority of the population, and to supplement the general food distribution. Other types of targeted distribution (e.g. food for work and school canteens) are likely to occur in the absence of general food distributions, and may have objectives other than nutritional ones, e.g. economic support or increased school attendance.

Targeting: A method of delivering goods and/or services to a select group of individuals or households, rather than to every individual or household in the population.

Therapeutic feeding programmes: Provision of a carefully balanced and managed dietary regime with intensive medical attention in order to rehabilitate severely malnourished individuals. They can be residential (24-hour) or provide daytime care. Community-based therapeutic feeding programmes are currently being piloted in some situations.

Vulnerability to food insecurity: Refers to the full range of factors that place people at risk of becoming food-insecure. The degree of vulnerability of individuals, households or groups of people is determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations.

In this document the term is used in two ways:

- *Households* that are at risk of not meeting their minimum food needs. These are socio-economically vulnerable and often include female-headed households, the poor, the landless or the homeless. The vulnerable may not necessarily be the poorest of the poor; in the case of complex political emergencies the vulnerable often comprise groups that are marginalized or oppressed on the basis of ethnicity, religion or political affiliation.
- *Individuals* who are at high risk of deteriorating nutritional status because they have special nutritional needs for physiological reasons (e.g. pregnancy, growth) and/or a low capability to satisfy their needs without help from others. These are the physiologically vulnerable. They include infants, growing children and adolescents, pregnant and lactating women, the malnourished, the elderly, orphans, the terminally ill, and the mentally and physically disabled.

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EVERY YEAR, NATURAL DISASTERS, armed conflicts and other forms of crisis adversely affect the lives of millions of people in the developing world. In many countries, families are forced to abandon their homes, farms and villages; access to adequate food becomes difficult, and hardship contributes to high rates of malnutrition. Temporary food distribution and supplementary feeding for vulnerable groups are common humanitarian interventions to help people to cope under emergency conditions. At the same time, assistance is also often needed to help restore local food production and to reduce the dependency on food aid. Through its Emergency Operations and Rehabilitation Division, FAO plays a vital role in the aftermath of natural disasters and conflicts in saving and enhancing rural livelihoods.

The Food and Nutrition Division of FAO has prepared this book as a complement to the Technical Handbook Series on FAO's Emergency Activities. It offers guidance to programme planners and technicians in the fields of nutrition, food security, agriculture and community and social development in adopting a longer-term perspective to addressing problems of household food insecurity and malnutrition during periods of crisis and recovery. It provides a framework for an implementation strategy that focuses on both saving lives in the short term and strengthening livelihoods to ensure that households are less vulnerable to food and nutrition insecurity in the future.

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