

Food and nutrition



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List of Contents

<u>Section</u>	<u>Paragraph</u>	<u>Contents</u>	<u>Page</u>
		<u>Overview</u>	2
23.1	1-5	<u>Introduction</u>	3
23.2		<u>Organization of Food Support</u>	3
	1-2	Role of the World Food Programme (WFP)	3
	3-8	Responsibilities and personnel	4
	9-10	Role of the refugees and nutrition education	4
	11-12	Organization of response	5
23.3	1-5	<u>Assessment and Surveillance</u>	5
23.4		<u>General Feeding Programme</u>	6
	1-8	Rations, vitamins, distribution	6
	9-11	Dry ration distribution (take home)	7
	12-13	Cooked food distribution	7
	14	Monitoring the effectiveness of the general feeding programme	8
23.5		<u>Supplementary Feeding Programme</u>	8
	1-3	The need	8
	4	Aim and content	8
	5-9	Admission and discharge	8
	10-14	Organization	9
23.6	1-5	<u>Therapeutic Feeding Programme</u>	10
23.7	1-10	<u>Infant Feeding and Milk Products</u>	11
23.8		<u>Provision of the Necessary Food</u>	12
	1-3	Logistics and storage	12
	4-5	Sources of supply	13
23.9		<u>Basic Facts about Food and Nutrition</u>	13
	1-2	Nutrients	13
	3	Energy and protein intakes	13
	4	Food and diets	14
	5-8	Protein-energy malnutrition (PEM)	14
	6	Nutritional marasmus	15
	7	Kwashiorkor	15
	8	Marasmic kwashiorkor	15
		<u>Further References</u>	16
<u>Annex 1</u>		UNHCR/WFP Emergency Procedures	17
<u>Annex 2</u>		WFP Emergency Assistance Request	19

Food and nutrition

Need

In an emergency refugees will need partial or complete food support. Some may need nutritional rehabilitation.

Aim

To provide the refugees with sufficient quantities of appropriate food to maintain their health and where necessary to improve the condition of those who are already malnourished.

Principles of response

- ☐ Measures to meet food needs should be appropriate and standardized, with responsibilities clearly defined, and the overall co-ordination ensured by a single organization.
- ☐ Specialist nutritional advice should be available.
- ☐ Whenever possible use familiar foods that meet nutritional needs and maintain sound traditional food habits.
- ☐ Organize food distribution to allow families to prepare their own meals if possible.
- ☐ Pay particular attention to infant feeding and the needs of children and others vulnerable to malnutrition.
- ☐ Maintain close co-ordination with the health and other community services.

Action

- ☐ Assess the health and nutritional status and food needs as soon as possible.
- ☐ Take immediate measures to ensure the availability of appropriate food and the necessary transport, storage, cooking fuel and utensils.
- ☐ Organize a general feeding programme for all refugees, then a supplementary programme to meet extra nutritional needs if necessary and a therapeutic feeding programme to treat any severely malnourished refugees.

Monitor the effectiveness of the feeding programme.

23.1 Introduction

1. In an emergency, refugees may be completely dependent on external food sources. Their numbers, health, nutritional status and food needs must be assessed as soon as possible. Every effort should be made to provide familiar foodstuffs and to maintain sound traditional food habits. Proper arrangements for the provision, transport, storage and distribution of food will be essential to the success of the operation. Monitoring the nutritional status, especially of those vulnerable to malnutrition, will be of vital importance.

2. Great care must be taken to ensure that the response of the international community is appropriate to the nutritional needs of the refugees and culturally acceptable. Foods prepared locally with local ingredients are preferable to imported special foods. Infant feeding policies require particular attention.

3. In any community certain groups are more vulnerable to malnutrition than others. These vulnerable groups may include infants, children, pregnant and lactating women, the sick and the elderly. Special action is required to identify the malnourished and vulnerable and meet their additional needs. Where the refugees have already suffered a prolonged food shortage, many will be malnourished by the time of the first assessment of their condition and needs.

4. If the refugees are already suffering the effects of severe food shortage, immediate action must be taken to provide whatever food is available locally and acceptable to the refugees. The first priority is to meet energy requirements. If insufficient acceptable food is available locally, it must be brought in from outside, initially by air if necessary. Flexibility and improvisation will be required, and time may be needed to develop the full programmes set out in this chapter.

5. A summary of the basic facts about food and nutrition is given at the end of this chapter together with a brief description of protein-energy malnutrition.

23.2. Organization of food support

- ☐ WFP should be closely involved in meeting food needs.
- ☐ Co-ordination and a clear definition of responsibilities is essential.
- ☐ A single organization must have overall responsibility for all aspects of food support.
- ☐ Organization and planning are the key to success.
- ☐ Most refugee emergencies warrant the early appointment of an experienced nutritionist as the feeding programme co-ordinator, supported by a local nutrition advisory committee.
- ☐ The refugees must be involved in the organization and management of their feeding programmes.
- ☐ Simple nutrition education is a part of effective food support.
- ☐ Special arrangements may be needed to provide cooking fuel.

Role of the World Food Programme (WFP)

1. WFP has special responsibility for food within the UN system and WFP's procedures specifically recognize refugee emergencies as qualifying for assistance. It is important to note, however, that WFP food aid does not provide all components of a complete general ration. The UNDP Resident Representative acts as WFP Representative, but WFP has its own professional field staff in some 80 countries. The advice of the local WFP field staff should be sought from the start of an emergency. If necessary, WFP will consider sending a field officer on mission.

2. WFP has certain resources in food and cash to meet emergency food needs, and is also prepared to undertake procurement and shipping with funds made available by UNHCR. Use of WFP resources in a refugee emergency requires a government request to the Director-General of FAO, and the latter's approval of an emergency project on the advice of the Executive Director of WFP. Pending or in the absence of a government request, the practical role of WFP will be little changed, but different procedures and funding arrangements will be necessary. Details of UNHCR/WFP emergency procedures are given in annex 1.

Responsibilities and personnel

3. UNHCR and WFP staff, together with the national authorities, the operational partner(s) and other organizations, must be clear on responsibilities for assessing and meeting the food needs. Close co-ordination with bilateral donors is essential. Inappropriate food donations are a waste of resources and often of little nutritional value.

4. Subject to the role of the government and any special arrangements, UNHCR will have overall responsibility for the emergency operation. Thus UNHCR's initial planning must cover all food needs, regardless of the likely sources of supply. Depending on sources of supply and implementing arrangements, UNHCR may entrust specific responsibility for practical arrangements to WFP. Every effort should be made to avoid dividing overall responsibility: a single organization must be responsible for co-ordinating the provision of the whole of the general ration, that is both the staple items and such complementary items as vegetables, sugar and spices. This responsibility must also extend to the provision of the food needed for the supplementary and any therapeutic ration.

5. Even when food is not short and the refugees have not arrived malnourished, it will be necessary to ensure that the food support provided is appropriate. The advice of an experienced nutritionist, with local knowledge if

possible, will be required and should be sought from the start. Such advice should be available from government nutritionists, or within the local UN (WHO, WFP or UNICEF) and NGO community.

6. In most emergencies the appointment of a feeding programme co-ordinator will be warranted. The co-ordinator would be responsible for the establishment of appropriate standards, the co-ordination of feeding programmes that provide adequate nutrition for the refugees, and evaluation of the effectiveness of the programmes. The co-ordinator should be a nutrition specialist with current experience in nutritional emergencies and local knowledge if possible. A co-ordinator will be particularly necessary in situations where non-specialist organizations and individuals have no alternative but to involve themselves in feeding operations.

7. Whether the feeding programme co-ordinator works directly for UNHCR or not will depend on the implementing arrangements, but he or she must be an integral part of the management team for the emergency. Additional persons experienced in nutritional emergencies may be required if there are food-related problems among large groups of refugees who are widely separated.

8. In major emergencies, or where food shortage is a characteristic of the emergency, a local nutrition advisory committee should be established, drawing on national and locally based experts. The feeding programme co-ordinator would naturally be a member. The committee's functions would include the provision of specific guidelines for feeding, the forward planning of diets, developing surveillance and evaluation procedures, and providing guidelines on the provision of special fortified or blended foods.

Role of the refugees and nutrition education

9. The refugees must be involved from the start in the organization and management of the feeding programmes. Special training will be necessary for selected refugees.

10. The provision of simple nutrition education for the refugees is essential. This should be organized in conjunction with other health education activities, to provide guidance on breast-feeding and weaning of infants, feeding sick children and treatment of diarrhoea, basic food hygiene and the preparation of available foods for maximum nutritional benefit. Where unfamiliar foods are unavoidable, cooking demonstrations will be necessary.

Organization of response

11. Sound organization and planning are the key to success. The logistical arrangements must ensure the delivery of sufficient food in time. Adequate storage must be provided and the food must be protected against insects, rodents and rain damage both in the store and in the home. The necessary cooking pots and utensils must be available. The distribution system must be fair and effective.

12. Particular attention must be paid to the provision of cooking fuel. This is often a major problem and failure to provide fuel can quickly lead to destruction of the vegetation in and around the site, lasting damage to the environment and friction with the local population. Special arrangements may be necessary to supply cooking fuel. In some areas solar cooking equipment may be an appropriate solution; a number of simple devices are now being developed. Advice should be sought on this from local experts, and through Headquarters if necessary.

23.3 Assessment and surveillance

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- ☐ The first requirement is a knowledge of the numbers, nutritional status and former diet of the refugees.
 - ☐ This assessment should be the responsibility of an experienced nutritionist.
 - ☐ Arrangements will be necessary both to monitor the nutritional status of the community and identify individuals who need special food relief.
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1. An initial assessment of the health and nutritional status of the refugees should be made as soon as possible. This is likely to be done as part of the overall initial assessment of needs and there should be an experienced nutritionist on that mission (the feeding programme co-ordinator if already appointed). Points to be covered include: numbers of refugees with an age/sex breakdown, their present access to food supplies, cooking fuel and utensils, their former diet, and traditional food and cooking habits.

2. This information, combined with information on the availability of suitable food, will enable early decisions on the basic components of the rations to be provided and on the logistical support necessary.

3. The initial assessment will determine if there is severe malnutrition or signs of specific deficiencies and identify the groups that are most affected. Thereafter, systems must be established that, on the one hand, identify the individuals in need of extra food support and monitor its effectiveness and, on the other hand, monitor the effectiveness of the food support provided to the community as a whole and detect specific deficiency diseases. This requires regular sample surveys of the nutritional status of the refugees.

4. Several factors may contribute to malnutrition, which is often not simply the result of lack of the right food. The causes should be sought, and a medical examination carried out, particularly of children. Internal parasites, anaemia, tuberculosis and measles are common contributory causes. Other causes may be family-specific, for example breast-feeding problems, lack of guidance on food preparation, or lack of proper family care, or the result of certain groups or individuals being socially disadvantaged within the community.

5. The indicators of malnutrition likely to be employed in an emergency are simple clinical signs and/or body measurements. The former involve examining the child concerned for

evidence of malnutrition or specific deficiencies. Body measurements will be required for the objective measurement of nutritional status. There are several techniques: weight-for-height (expressed as a percentage of the standard reference) is the most sensitive indicator of nutritional status and is preferred for nutritional surveillance and individual screening. Other methods include weight-for-age and arm circumference. Standardization of technique and accuracy of measurements are very important in order to avoid significant errors in the classification of nutritional status. Children below 70% of the reference weight-for-height standard are severely malnourished. The measurement of nutritional status requires trained personnel.^{1/}

23.4 General feeding programme

- ☐ Every effort should be made to provide familiar foodstuffs and maintain traditional food habits.
- ☐ Average rations must provide at least 6.3 MJ ^{2/} (1500 Kcal) for initial survival and over 8.4 MJ (2000 Kcal) for longer term maintenance.
- ☐ The diet must provide the basic vitamin requirements.
- ☐ Pay particular attention to locally prevalent deficiencies.

^{1/}Chapter 3 of "The Management of Nutritional Emergencies in Large Populations" (WHO) describes techniques and the organization of the assessment and surveillance of nutritional status.

^{2/}Energy values are expressed in the SI unit, the megajoule (MJ). The equivalents in the superseded unit, the thermochemical kilocalorie, are given in brackets. 1 MJ = 239 Kcal; 1000 Kcal = 4.184 MJ.

1. Every effort should be made to provide familiar foodstuffs and maintain traditional food habits. Expert advice on the ration is essential and should take full account of local availability and practice. Staple foodstuffs should not be changed simply because unfamiliar substitutes are readily available. Inappropriate foods lower the morale of the refugees and can lead to wastage and malnutrition.

2. The amount and quality of food provided must satisfy energy and protein requirements. This is the first priority of any feeding programme. A survival ration should provide at least 6.5 MJ (1500 Kcal), while over 8.4 MJ (2000 Kcal) (and 50 g of protein) are required for longer term maintenance. Active adults may require considerably more. A typical daily ration to provide sufficient calories and protein would be built around:

- a staple food, e.g. cereal 350-400 g
- an energy-rich food, e.g. oil 20-40 g
- a protein-rich food, e.g. beans 50 g

Other items should be provided according to cultural and nutritional needs, such as vegetables, sugar, spices, condiments, fruits, and tea. A few items and assured delivery is better than a complex ration, some of which fails to arrive. It is important to consider the ration as a whole, rather than simply the three basic components. For example, spices and condiments will be important if the staple food is to be palatable.

3. Essential vitamin and mineral requirements must also be met: a varied diet is the best means of doing so. Any existing serious deficiencies must, however, be appropriately treated. A monotonous, unvaried diet is likely to lead to vitamin and mineral deficiency diseases; the inclusion of seasonally available vegetables will often prevent such problems. Particular attention must be paid to any locally prevalent deficiencies and efforts made to include food items which are rich in the otherwise missing nutrients. Where adequate quantities of certain nutrients cannot be provided in the diet, or where serious deficiencies of specific

nutrients are already diagnosed, arrangements must be made to administer the required vitamin(s) in an appropriate form.

4. Two deficiencies are commonly seen among refugees: vitamin A deficiency and anaemia. Vitamin A deficiency in malnourished populations, especially in children, leads to blindness. Where there are symptoms of this deficiency, a single large dose of vitamin A should be given, at least to all children. Care should be taken to avoid overdosing. Repetition after six months may be required. Anaemia, which is commonly associated with an insufficient intake of iron and folate, can lead to cardiac failure and death in the most severe cases. Those - especially pregnant and lactating women - with increased iron requirements which are not being met in the diet, and those already anaemic, should receive concentrated preparations of iron and folate. See also chapter 22.3.

5. Where widespread deficiencies exist, consideration should be given to fortifying one of the food items with the deficient nutrient. Whenever possible the refugees should be encouraged to grow appropriate varieties of vegetables themselves. The distribution of multivitamin tablets to the entire refugee population is often a waste of time and money, especially when the distributions are not regular and controlled, as multivitamin preparations contain insufficient quantities of individual vitamins to replace deficiencies.

6. The need for a fair, efficient and regular ration distribution cannot be over-emphasized. An accurate census is needed and a monitoring system must be established to ensure that the food is actually reaching every refugee as intended. Disruption, diversion and corruption will inevitably lead to widespread discontent and suffering.

7. There are two main types of distribution: dry ration and cooked meals. Whichever is used, it is important to ensure that those doing the

distribution have exact instructions on the size of the rations and are seen to follow them. They will require standard measures, according to the distribution frequency.

8. The distribution of food as pre-packed rations, generally including processed foods, is an unsatisfactory solution and to be avoided.

Dry ration distribution (take home)

9. This method has major advantages over cooked food distribution. It allows families to prepare their food as they wish, permits them to continue to eat together as a unit and is generally more culturally and socially acceptable.

10. Distribution is generally made at weekly intervals, at least initially. Where an accurate census is available and families have food distribution cards, some form of delegated family or group distribution is possible, but in the initial stages the best way to guarantee a just distribution may be to have every individual present.

11. In addition to cooking pots, fuel and utensils, the refugees must have containers and sacks to protect and store their food rations. Oil tins and grain bags will be useful, and contracts with suppliers, at least for initial deliveries, should not require the return of the sacks.

Cooked food distribution

12. This requires centralized kitchens with adequate utensils, water and fuel supplies and trained (and healthy) personnel. The refugees usually sit together in a feeding compound, although in some circumstances families can carry the cooked food to their accommodation. At least two meals must be served each day and the efficient organization of cooked food distribution for large numbers is difficult.

13. Every effort should be made to avoid having to resort to cooked food distribution for the general ration.

Monitoring the effectiveness of the general feeding programme

14. A general feeding programme to these standards is the minimum necessary to maintain the nutritional status in a healthy population. Its effectiveness must be closely monitored and evaluated through regular surveys under the surveillance programme. The quality and the quantity of the rations should be regularly discussed with the refugees. Where there are complaints, these should be investigated. Proper arrangements must be made for the inspection of food supplied by contractors. Qualified personnel should visit the refugees at meal times to check that food is being prepared correctly, particularly if it is unfamiliar.

23.5 Supplementary feeding programmes

- ☐ Extra food is necessary for malnourished refugees and may be required to prevent malnutrition.
- ☐ The programme must actively identify those who need supplementary food and ensure they receive it.
- ☐ The aim is to provide a high energy, high protein, low bulk food at least daily.

The need

1. Infants, children, pregnant and lactating women and the sick are the most seriously affected by food shortage. Their vulnerability stems from the greater nutrient requirements associated with growth, the production of breast milk, repair of tissues and production of antibodies. Because children are unable to eat a large volume of food, it is necessary both to prepare food in a concentrated form, giving more nutrients in less volume, and also to provide more frequent meals. Malnutrition results in lower

resistance to infection, which in turn results in further malnutrition. Small children are particularly susceptible to this cycle of infection and malnutrition and sick children must receive additional food whenever possible.

2. Certain groups or individuals may be vulnerable to malnutrition for social or economic reasons. These persons include unaccompanied children, the disabled, single-parent families, and perhaps the elderly, particularly those without family support. In some communities specific social or cultural practices and taboos may put constraints on meeting the nutritional needs of certain persons, for example pregnant and lactating women.

3. Where malnutrition exists or the needs of these vulnerable groups cannot be met from the general ration, special arrangements are required to provide extra food. This is generally organized through a supplementary feeding programme, though where the refugees are predominantly women and children, it may be impossible (or unnecessary) to provide this whole group with supplementary food. Under such circumstances it is better to adjust the general ration to the needs of the majority, for example by increasing the overall protein content.

Aim and content

4. The aim is to provide extra high energy, high protein, low bulk food, once or twice a day to those who need it. The number of meals depends on the nutritional status of the population, the nutritional value of the general ration and the age of the beneficiaries. The size of the supplement also depends on the nutritional status of the beneficiaries: at least 350 Kcal and 15 g protein per day.

Admission and discharge

5. The supplementary feeding programme must be based on the active identification of those considered vulnerable. This requires a house-by-house or family-by-family assessment, usually made by public

health workers operating a referral system. As well as encouraging those in need to participate in the supplementary feeding programme and ascertaining the reasons for non-participation, continued home-visiting is required to monitor the progress of infants and children.

6. In practice, a supplementary feeding programme that does not actively identify those in need but simply operates on an open "come-if-you-wish" basis is most unlikely to benefit those in greatest need and is a very questionable use of food resources.

7. The criteria for admission to a supplementary feeding programme will depend on the condition of the refugees and the resources available. The order of priority within the vulnerable group is, generally, any malnourished person, young children, pregnant and lactating women, medical referrals and the elderly. Should restrictive selection be necessary because of lack of resources this will in part change the nature of the programme from preventive to curative.

8. Supplementary feeding must be considered necessary until such time as an appropriate general ration is provided that equals the normal supply previously available to the refugees in their country of origin, and as long as living conditions remain hazardous. It is a mistake to discontinue supplementary feeding as soon as the nutritional status of vulnerable individuals or groups starts to improve, and no programme should be discontinued without a nutritional survey of the community.

9. The criteria for discharge from a supplementary feeding programme will depend on resources, but no child should be discharged from the programme until at least 90% of standard weight for height according to the internationally recognized standard tables.

Organization

10. As for general rations, the supplementary feeding programme may be organized either on the 'take home' or 'on-the-spot' principle. Both require

careful registration and control. The take home system is relatively simple to administer but the supplement is likely to be shared within the family. On-the-spot supplementary feeding programmes are more often established. Supervision is improved, the intended beneficiary is seen to eat the correct amount of food and follow-up is easier, as those in need are seen more often and under more controlled conditions.

11. Any supplementary feeding programme must be closely integrated with the community health care programme and health education activities, especially the promotion of breast-feeding. The supplementary feeding programme will give the opportunity for health problems to be identified and treated, and certain daily medications may best be given in the course of the supplementary feeding programme, for example iron and folate preparations for anaemia.

12. Feeding centres and kitchens must be well organized and kept clean. The food should be prepared in easily digestible form and readily acceptable. Long waiting periods must be avoided and the schedule must not clash with family meal times or other site activities, particularly schooling. Parents must be made to understand that the supplementary feeding programme is given in addition to normal meals. Utensils, bowls, scales and other equipment will be required and can generally be obtained locally.^{3/}

13. Different organizations may wish to establish their own supplementary feeding programmes and it is most important that these are appropriate to the needs, centrally co-ordinated, and standardized. The programmes must avoid such dependence on outside personnel that the programmes collapse when individuals or organizations leave.

^{3/}Oxfam feeding kit No. 1, which provides the equipment necessary (except the cooker) for a supplementary feeding programme for 500 people, may be useful at the start, pending local supply arrangements, and can be supplied through Headquarters at short notice.

14. An effective programme requires the regular attendance of all those in need of extra food. The identification of those in need is a prerequisite, to be followed by careful control of attendance and progress. Trained staff should weigh and measure children on admission to the SFP and regularly thereafter to monitor individual progress. The effectiveness of the programme should be determined by periodic nutritional surveys of the community as a whole.

23.6 Therapeutic feeding programme^{4/}

- ☐ A therapeutic programme will be essential to save the lives of severely malnourished children.
- ☐ Treatment of the severely malnourished requires medical supervision.
- ☐ The treatment is food of high energy and protein content given according to the individual's nutritional requirements.

1. Therapeutic feeding is required to reduce deaths among infants and young children with severe protein-energy malnutrition (PEM). The forms of PEM are described in 23.9 paragraphs 5-8. Food is the treatment for PEM. Therapeutic feeding should take place on an in-patient basis whenever possible, as food is given every few hours. Infection and dehydration are the major causes of death and medical care should be provided. The immunization of young children against measles is a priority because of the high mortality associated with this disease in a malnourished population.

^{4/}Chapter 5 of the "Management of Nutritional Emergencies in Large Populations" describes the basic concepts and organization of therapeutic feeding.

2. Where resources are limited, priority should be given to the establishment of general and supplementary feeding programmes, in order to prevent PEM. Compared to these programmes, therapeutic feeding is expensive in facilities, time and skilled personnel, as the care is intensive and the number of beneficiaries small.

3. The usual criteria for admission to a therapeutic feeding programme are oedema (kwashiorkor), or severe marasmus (weight-for-height less than 70%). On recovery patients would be discharged to the supplementary feeding programme. Unlike the latter, therapeutic feeding is solely a curative measure, and thus in theory a short-term programme. The need for its continuation will depend on the effectiveness of the general and supplementary feeding programmes and the nutritional condition of any new arrivals.

4. A therapeutic feeding programme must be run by experienced and suitably qualified personnel. It should be noted that many doctors have little training in nutrition and no experience in treating severe PEM. They must therefore be given the necessary guidance. The refugees and particularly the mothers of patients must be involved in running the therapeutic feeding centre.

5. In addition to a suitable building and services, the centre will require a kitchen and the necessary utensils, bowls, scales and equipment, which can usually be obtained locally^{5/}. Treatment is a diet which provides 3-4 g of protein and about 0.63 MJ (150 Kcal) per kilo body weight per day for each patient, via 5-7 meals at 3-4 hour intervals throughout the 24 hours.

^{5/}Oxfam feeding kit No. 2, which provides the equipment necessary (except the cooker) for a therapeutic feeding programme for 100 people, may be useful, pending local supply arrangements, and can be provided through Headquarters at short notice.

Boiled water mixed with a dried skimmed milk/oil/sugar mixture, or with a UNICEF K Mix II/oil mixture, can be used to initiate treatment. A varied diet is introduced once the patient's condition starts to improve (usually after 4-5 days).

23.7 Infant feeding and milk products

- ☐ Breast-feeding is best for babies and must be promoted and continued for as long as possible.
- ☐ Weaning foods must be appropriate; foreign baby foods and special foods often are not.
- ☐ Infant formulae should be avoided, and never used except under strictly controlled conditions, with a cup and spoon, never a feeding bottle.
- ☐ Milk products and especially powdered milk can cause problems and are often inappropriate.

1. In refugee emergencies, the indiscriminate distribution of commercial infant formulae and other milk products, unsuitable processed foods and baby bottles by inexperienced relief workers frequently leads to high rates of infection, dehydration and death, particularly of infants. There are circumstances in which milk and appropriate special foods can be used safely but very careful control is required. UNHCR staff must be aware of the important considerations relevant to the use of these products and when in doubt should seek advice, for example, from UNICEF or WHO.

2. In particular, the problems associated with infant formulae and feeding bottles are exacerbated in a refugee emergency. Clean boiled water is essential but rarely available. The concentration, quantity and frequency of the feeds are of critical importance but difficult to control. Mothers are

unlikely to be familiar with the use of infant formulae and the instructions are often in a foreign language. Infant feeding bottles will be almost impossible to sterilize and keep sterile and are therefore dangerous.

3. Tinned baby foods and special processed foods, such as high protein biscuits, are typical unsolicited donations. Such items are often poorly accepted by the refugees, being culturally unfamiliar. Overseas contributions should be the subject of prior clearance if possible, and nutritional analysis if necessary. These, and general policy guidelines on the use of such foods, would be a matter for the nutrition advisory committee.

4. Human milk is the best and safest food for infants and children under 2 years. Breast-feeding provides a secure and hygienic source of food, often initially the only source of food, as well as antibodies giving protection against some infectious diseases. Breast-feeding must be encouraged for as long as possible. Every effort must be made to promote and restimulate lactation even among sick and malnourished mothers. Experience has shown that this can be done. Mothers must receive extra food to encourage breast-feeding and provide the additional calories and nutrients required. Where mother's milk is not available, consideration should be given to the use of a "wet-nurse" from within the community.

5. Appropriate weaning foods should be introduced at between four and six months of age. Weaning foods should be locally available foodstuffs and as far as possible be prepared in the traditional manner. The ingredients are simple (for example, combinations of cereal grains, soy bean, groundnut, sesame, fish meal and oil), as is preparation. Instruction on their use, preparation and feeding schedules may usefully be given by the staff, including trained refugees, in the supplementary feeding centre.

6. If there is no possibility of providing human milk to infants, there are three vital considerations:

(1) Tinned or powdered milk must never be served to infants under six months unless specially formulated for this purpose;

(2) Infant formulae must be distributed from health or feeding centres under strictly controlled conditions and proper supervision;

(3) Infant feeding bottles must never be used. A clean cup and spoon must be used instead.

Other milk products

7. Some populations have long considered milk as an ideal food, while others rarely consume it in either its natural or powdered form, and may even have a lactose (milk sugar) intolerance. Milk should not be distributed indiscriminately if it is not a traditional part of the refugees' diet.

8. In addition to infant formula, the products commonly available in emergencies include Dried Whole Milk (DWM), Dried Skimmed Milk (DSM), Sweetened and Unsweetened Condensed Milk and Evaporated Milk. It should be noted that where their use is acceptable, they should generally be fortified. DSM must be vitamin A fortified (when it will have a shelf-life of six months).

9. Major practical problems are often associated with milk powder. It may arrive at the emergency site already contaminated or spoilt. Unless packed in sealed tins, it is vulnerable to contamination by rodents and their excreta and parasites. Both proper hygiene and proper dilution will be difficult to ensure, and contaminated milk, for example through unsafe water or exposure to dust and flies, provides an ideal environment for bacterial growth.

10. For these reasons, milk should not form part of the general ration, except perhaps as an alternative source of protein for refugees with a nomadic background and whose main food was previously milk and meat; meat is likely to be difficult to supply in an emergency. Milk products may be useful

in supplementary and therapeutic feeding programmes, administered under supervision. Milk can safely be added to porridge or rice to boost the protein content, or used as an ingredient in other supplementary foods. Milk powders are a useful basis for early diets in therapeutic feeding. Whenever it is used it is imperative that the milk be correctly prepared and served under controlled and hygienic conditions. Instruction and guidance must be given.

23.8 Provision of the necessary food

- ☐ Logistical aspects must be considered from the start.
- ☐ All possible local sources of the appropriate food must be explored before resorting to overseas supply.

1. This section assumes that the refugees have no food supplies of their own. Considerations relating to the choice of the ration and the importance of familiar foodstuffs that meet the nutritional needs and maintain traditional food habits have been covered in earlier sections. Details of UNHCR/WFP procedures for emergency food supply are given in annex 1.

Logistics and storage

2. Adequate logistics will be the key to a successful emergency operation, and food will be the major item to be transported. Logistical considerations are thus very important and sometimes determining. Particular attention must be paid to proper storage, protection against the elements, rodents and losses through theft. Effective stock control will be essential. Considerable reserve stocks may be necessary. Guidance on logistics is given in chapter 27.

3. As a rough guide to quantities, approximately 3 metric tons (MT) per 1000 refugees will be required per week for a full general ration (470 g/person/day for 80%, half that for 20%). A full supplementary feeding

programme could add approximately a further 0.3 MT (100 g/person/day for 40%). One MT of cereal is approximately 2m³ in volume.

Sources of supply

4. Sources of food will be determined by local circumstances, which the ration selected will naturally reflect. The timely provision of a complete ration may require a combination of the following sources:

(1) Borrowing from national stocks, WFP stocks on hand in the country (direct WFP stocks or those available to WFP under reciprocal drawing rights) or stocks of other donor organizations on hand in the country;

(2) Purchase on the local market or from neighbouring countries;

(3) Overseas supply, either as a result of diversion of WFP or other stocks already at sea, or overseas procurement or through contributions in kind;

(4) Bilateral donors, including NGOs.

5. In cases of extreme urgency, it may be necessary for Headquarters to make interim arrangements for the supply of appropriate essential food by air, but every effort must be made to find acceptable local supplies first. Air transport is unsuitable for large quantities of the appropriate staple foods, while the processed foods usually airlifted are often inappropriate to the traditional food habits of the refugees.

23.9 Basic facts about food and nutrition^{6/}

Nutrients

1. All foods are made up of five basic types of nutrient: carbohydrates, fats, proteins, vitamins, and minerals, in addition to variable amounts of water. Carbohydrates are mostly starches and sugars of vegetable origin, being, for example, a major component of cereals and tubers. They are primarily a source of energy. Fats and oils provide the most concentrated source of energy, having more than twice the energy content per weight of carbohydrates and proteins. In most poor countries, most of the energy is derived from the staple foods, especially cereals, fats accounting for a much smaller proportion. Proteins are body-building substances. Some proportion of protein is found in almost all human foods. All proteins are composed of amino acids, of which some cannot be made by the body. These are called essential amino acids and must be obtained from food.

2. Vitamins are needed for the adequate functioning of the body. There are two main groups: water-soluble vitamins, e.g. the vitamin B complex - thiamine (B1), riboflavin (B2), and niacin - and vitamin C. Vitamins A and D are examples of the other main group: fat-soluble vitamins. Of the minerals, iron is required for the formation of the red pigment in the blood (haemoglobin). Iron deficiency is a common cause of anaemia among refugees. Sodium and potassium deficiency may occur. Several other minerals are essential to the diet, but are not usually critical in emergency situations.

Energy and protein intakes

3. If an adequate energy supply is not provided, some protein will be burnt to provide energy and not used for body growth or repair, that is, it will be

^{6/}Adapted from "The Management of Nutritional Emergencies in Large Populations".

used in the same ways as carbohydrate or fat, which are usually less expensive. Not less than 20% of the energy requirement should be supplied from fats and oils which greatly enhance the palatability of the diet, increase energy density (important for younger children), and reduce transport requirements. Energy requirements vary widely even in normal individuals. They are also increased by physical activity. Much higher intakes are required for the treatment of malnutrition, in other words, when the aim is rehabilitation rather than maintenance.

Food and diets

4. Most diets in most countries^{1/} contain adequate amounts of all the nutrients required for good health if enough of the diet is taken to satisfy the individual's energy requirements. This also applies to protein. Even a growing child, if healthy, requires no more than 10% of the calories to be supplied from protein sources. The commonly used foods are:

(1) Cereal grains (rice, corn, millet, sorghum, oats, and wheat) are the most important food item. These staple foods are the main source of energy (carbohydrates) and are usually also the main source of proteins. In addition to significant quantities of proteins (8-12%), they contain vitamin B and iron. Most vitamins (especially thiamine) are lost in the milling process. The whiter the flour, the greater the loss of vitamins, unless the flour is enriched or fortified with vitamins.

(2) Legumes and oilseeds (beans, peas, soya, groundnuts, etc.). Legumes as a group contain about 20% of proteins (soy beans up to 40%), the B complex vitamins, and iron. Legumes are particularly useful when eaten with

cereals, as the proteins complement each other. They provide energy in a compact form but require careful storage.

(3) Tubers and roots (yams, taro, cassava, sweet potato, potato, etc.). These are the main sources of carbohydrates and are low in proteins (1-2%). Bulk and low protein content make them unsuitable as staple foods for infant feeding unless supplemented by foods richer in proteins.

(4) Vegetables and fruits are high in water and low in calories. They are often rich in provitamin A or carotenes, vitamins B and C, and iron, especially dark-green leafy vegetables (young cassava leaves, baobab leaves), which in addition have an appreciable protein content (2-4%).

(5) Animal products (meat, fish, milk and dairy products, eggs, etc.). With the exception of fish, often dried or salted, and which is an excellent source of high quality protein, calcium and iron, animal products are consumed in very small quantities in most developing countries in normal times and they may become even scarcer during emergencies. Being more readily utilized by the body, they are effectively of higher protein quality than proteins of vegetable origin. Small amounts add considerably to the quality and palatability of a diet. Religious practice or local custom might restrict their use among some communities or by some groups, for example, young children and pregnant women. Animal products, with the possible exception of fish and perhaps milk, are unlikely to be essential in the emergency phase of an operation.

(6) Oils and fats offer a compact source of calories. Fats derived from milk are sources of vitamin A and D, while vegetable oils contain no vitamin A and D, except for red palm oil which is extremely rich in carotenes (vitamin A).

Protein-energy malnutrition (PEM)

5. PEM is a problem in many developing countries, even in normal times. Most commonly it affects children between the ages of six months

^{1/}Appendix 7 of "A Guide to Food and Health Relief Operations for Disasters" gives information on the major foods and acceptable alternatives in adult diets in over 100 countries.

and five years (especially around 18-24 months). PEM may be caused directly by lack of food or indirectly as a result of infection. Refugees are particularly vulnerable and UNHCR staff should be able to recognize severe PEM, which has three forms, described below.

6. Nutritional marasmus results from prolonged starvation. The main sign is a severe wasting away of fat and muscle, which have been expended to provide energy. The child is very thin and may have an "old man" face and loose folds of skin. The children affected may, however, appear relatively active and alert. This is the most frequent form of PEM in cases of prolonged food shortage.

7. Kwashiorkor is seen most commonly in areas where the staple food is mainly carbohydrate, for example, tubers and roots, like cassava, although it is not necessarily caused simply by protein deficiency. The main sign of kwashiorkor is oedema, that is a swelling usually starting at the lower extremities and extending, in more advanced cases, to the arms and face.

Slight oedema may be detected by pressing over the front of the lower leg for three seconds with a finger; if present, a definite pit remains. Oedema must be present for the diagnosis of kwashiorkor, but can also occur in other diseases. Where there is gross oedema, the child may look "fat" and be regarded by the parents as well-fed. Associated signs of kwashiorkor, which do not always occur, include hair changes (colour becomes lighter, curly hair becomes straight, comes out easily with a gentle pull) and skin changes (dark skin may become lighter in places, the skin may peel off, especially on the legs, and ulceration may occur). Children with kwashiorkor are usually apathetic, miserable and withdrawn, and often refuse to eat. Profound anaemia is a common complication of kwashiorkor.

8. Marasmic kwashiorkor is a mixed form, with oedema occurring in children who are otherwise marasmic and who may or may not have the other associated signs of kwashiorkor. In practice, mixed forms will often be seen.

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Annex 1UNHCR/WFP Emergency Procedures

1. Once immediate requirements have been established, a cable should be sent to Headquarters giving as much of the information required by WFP (see annex 2) as is available and relevant. The cable should indicate the possibilities of meeting the immediate needs locally. It should be drafted with the senior WFP field officer, who will advise on any quantities of WFP food available locally and obtain the government's concurrence for borrowing if necessary. Provision of the complete ration should be covered, including the items that complement the staple foodstuffs (e.g. vegetables, sugar, spices, salt, tea), and items not normally provided by WFP. If food is to be purchased locally, an estimate should be given of the cost of immediate requirements, and of any internal transport and any immediate storage costs.

2. Local purchase and transport costs up to US\$20,000 per contract may be met at once by the Representative provided financial authority has been given (for example through the ELOI). Contracts above this sum must be referred to the Headquarters Contracts Committee unless authority has been given to establish a local Contracts Committee. The advice of any government food corporation or agency and the WFP field staff or other qualified personnel should be sought on local purchase.

3. On receipt of the cable referred to in paragraph 1 above the Programming and Co-ordination Section, in co-ordination with the Regional Section and Emergency Unit, will contact the WFP Emergency Unit. If local borrowing is possible, WFP will advise UNHCR of the estimated replacement cost. If it is already clear that overseas supply is necessary, WFP will seek to locate appropriate food supplies already at sea in the area, whether belonging to WFP, government aid programmes or commercial interests, and advise UNHCR of the cost of purchase or replacement and diversion. If no other possibilities exist, WFP will advise UNHCR of the cost

of overseas procurement and shipment of the immediately necessary supplies and indicate likely delivery times. When this information is available, a decision will be taken by UNHCR on the amount of funds to be obligated to WFP, in accordance with a standard procedure, to cover borrowing, diversion or procurement as appropriate.

4. At the same time, the UNHCR Representative and WFP field staff should make every effort to obtain a government request for emergency food aid, addressed to the Director-General of FAO and routed through the WFP Representative (UNDP Resident Representative), who should be closely involved in this effort, and whose recommendations must accompany the request. This request should cover food needs from the start of the emergency, regardless of what action has been taken or is envisaged to meet them in the meantime. The UNHCR Representative should also seek to ensure that any formal government request to UNHCR for assistance mentions the government's wish that emergency food aid be provided by WFP.

5. If a government request is made and emergency aid approved by the Director-General of FAO, any funds obligated by UNHCR but not yet committed by WFP would revert to UNHCR. If funds had already been spent, WFP would provide from the emergency project a replacement tonnage equal to that purchase with UNHCR funds, thus effectively extending the length of the WFP project. In certain circumstances there might be the alternative possibility of crediting this tonnage to another UNHCR programme. Where UNHCR had been required to spend funds directly on the procurement of foodstuffs now foreseen under WFP's emergency assistance, a similar replacement of equivalent tonnages would be made.

6. WFP expects governments to meet inland transportation costs for WFP food, though LDCs are entitled to a cash subsidy and in exceptional cases financial assistance may be provided by WFP to other low income countries. If the government is unable to meet these costs, UNHCR may finance them, as UNHCR programmes anyway cover inland transportation where the government cannot. Particular attention should be paid to avoiding delays as a result of misunderstandings on this point.

7. Arrangements for financing the provision of food will vary according to circumstances. Initially a commitment of UNHCR funds may be necessary for the near-totality of the needs, through a combination of direct procurement, whether locally or abroad, or to cover borrowing or diversion of WFP and other stocks. Should a request for emergency WFP assistance be approved, then WFP resources should later cover much if not all of the bulk food stuffs, while contributions in kind, whether through UNHCR or bilaterally, are likely to meet an increasing part of the needs as time passes.

Annex 2 1/Information to be Included in a Request for WFP Emergency Assistance
with Food Supplies

1. Date and nature of emergency (e.g. due to natural disaster, movements of refugees, malnutrition, etc.).
2. Area affected (give geographic names, limits, surface in square kilometres).
3. Number of people normally living in the area.
4. Number of people affected by the emergency.
5. Number of children, by age, i.e., 0-1, 1-5, 6-14 years.
6. Extent to which the emergency affects the nutritional situation of the population, e.g. slight incidence of malnutrition, serious nutritional deficiencies, isolated cases of starvation, widespread famine, etc. If possible, indicate numbers.
7. Estimated period during which relief food aid will be required (date from to).
8. Estimated deficit in food and feed supplies.
9. Measures which have already been taken or are being taken by the local authorities to meet the emergency need by using their own available resources.
10. Information on food habits of the affected people.
11. Amounts requested or expected from other international or bilateral aid (give list, indicated name of organization or country and kinds and quantities of each commodity).
12. Whether borrowing food/feed commodities locally is possible until the arrival of the requested commodities (if so, specify the sources from which the commodities can be borrowed).
13. Information (if any) on the possibility to arrange local purchases of food for relief purposes; indicate type of food, price per metric ton, date of delivery and the name(s) of possible supplier(s).
14. Expected date of arrival of supplies mentioned above (under 11).
15. Port of entry and/or frontier station for landlocked countries, unloading and forwarding relief food.
16. Existing storage facilities, their capacity in metric tons and their location.
17. Transport facilities from port or ports of entry or from frontier stations where applicable, indicating number of trucks, rail freight cars, and their capacity.

1/From WFP Field Manual Chapter XVI Annex B.

18. Estimated costs per metric ton of internal transport, storage and handling of relief food; giving the details of calculations from the c.i.f. entry points to the distribution point(s).
19. Information concerning the availability and capacity of distribution agencies which will carry out emergency relief operations including data on relief personnel available and/or needed from outside as necessary.