

Planning a food ration for a population that is affected by HIV

Food Assistance in the Context of HIV: Ration Design Guide



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World Food
Programme

Table of Contents

Table of Contents	ii
Acknowledgements	iii
Acronyms	iv
At a Glance	1
Introduction	2
Section 1: Food, Nutrition and HIV	5
Nutritional requirements of people living with HIV.....	5
Sub-populations affected by HIV and AIDS that could be targeted through WFP’s programmes	8
Section 2: Ration Design—the Five Steps	15
Step 1: Review the nutrition and food security situation of the targeted population.....	15
Step 2: Review the objectives of the programme and the role of the ration.....	17
Step 3: Determine how much food needs to be provided and for how long.....	20
Step 4: Select the most appropriate food commodities and type of rations.....	23
Step 5: Consider activities to put in place to enhance the proper use of the food ration.....	28
Section 3: Monitoring the Ration and Operational Considerations	31
Monitoring	31
Operational considerations.....	32

Section 4: Food Aid Commodities	37
Cereals	37
Pulses	37
Oil	38
Fortified blended foods	39
Sugar/salt	39
Animal products	40
Dried skimmed milk.....	41
Ready-to-Use Therapeutic Food.....	41
Micronutrient powders	42
Breastmilk substitute	42
Other specialized products	43
Section 5: Examples of Ration Design Process	45
Hypothetical Case: Food Assistance in Response to Drought and Conflict in 'Gotongo'	45
Exercise 1: Ration design for PLHIV in IDP camps	47
Exercise 2: Ration design for OVC in Southern Province	49
References	52

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Acronyms

ART	Anti-retroviral therapy
ARVs	Anti-retroviral drugs
CDC	US Centers for Disease Control and Prevention
CSB	corn-soya blend
DOTS	Directly Observed Treatment, short-course
DSM	dried skim milk
EDP	extended distribution point
FBF	fortified blended food
FDP	final distribution point
FFW	food for work
GFD	General Food Distribution
HBC	home-based care
IDP	internally-displaced person
LIFD	low-income food-deficit
MNP	micronutrient powders
ODOC	Other Direct Operational Cost
OVC	orphans and other vulnerable children
PDPH	HIV and AIDS Service in WFP Headquarters
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission
PRRO	protracted relief and recovery operation
RDA	Recommended Daily Allowance
RTUF	ready-to-use food
RUTF	ready-to-use therapeutic food
TB	tuberculosis
TFD	targeted food distribution
WHO	World Health Organization
WSB	wheat-soya blend

At a Glance

1. Most of the core principles of nutrition and ration planning for people living with HIV are the same as they are for people who are uninfected by the virus.
2. A balanced, healthy diet that provides for adequate intake of energy, protein, fat and micronutrients is essential for the health and survival of all people, regardless of HIV status.
3. A universally applicable “HIV ration” does not exist.
4. HIV by itself does not mean that people are food insecure. The food security assessment data of potential beneficiaries must be reviewed as part of the ration design process.
5. The World Health Organization (WHO) recommends increasing energy requirements by 10 percent to maintain body weight and physical activity in asymptomatic HIV-infected adults and growth in asymptomatic HIV-infected children. For symptomatic HIV, energy requirements increase by 20-30 percent for adults and by 50-100 percent for children experiencing weight loss.
6. Unless potential beneficiaries are totally dependent on food assistance for survival, the food provided should serve as a nutritional supplement and/or food security support that complements the beneficiary's diet.
7. Where WFP provides staple foods to populations with high HIV prevalence, these staple foods should be milled and fortified where possible to prevent micronutrient deficiencies.
8. The food provided by WFP should be complemented with fresh foods wherever possible.
9. Nutrition education should be an essential component of HIV-related activities, as it can help beneficiaries deal with symptoms of the virus, manage side effects of medication, and prevent adverse nutrient-medicine interactions.

Introduction

“We’re starting a new activity related to HIV...
What ration should I give?”

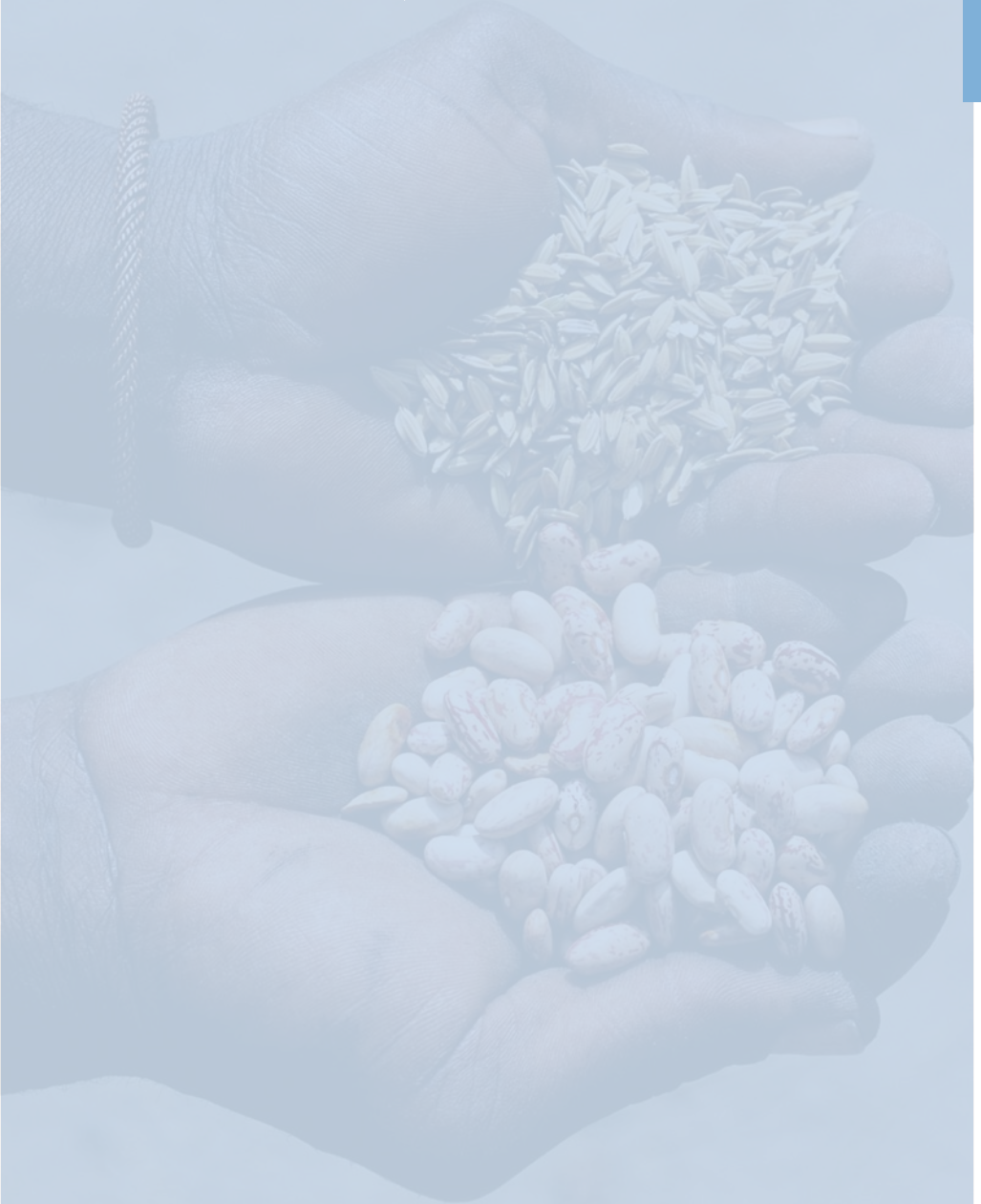
This question is one of the most frequently asked questions posed to the Nutrition and HIV/AIDS Services in WFP headquarters. Planning a food ration for a population that is affected or infected by HIV can often be daunting. Studies of nutrition and HIV are relatively new, as are food-based programmes that aim to respond to the HIV pandemic. There is little guidance to help plan rations for targeted food and nutrition activities aimed at supporting the care and treatment of people living with HIV, or for populations made vulnerable by the pandemic.

This guide was developed to help ensure that the rations provided through WFP’s programmes are designed through a process that considers the needs of the beneficiaries as well as the practical concerns that dictate the feasibility of implementing programmes. It is important to remember that planning rations is only part of a larger process of programme design.

This guide has been prepared primarily for WFP programme officers in the field who are responsible for designing rations for HIV programmes. The guide will also be helpful to other agencies, including WFP co-operating partners, to help them understand the rationale behind different WFP rations and to strengthen partnership.

The guide is divided into five sections. Section 1 discusses the needs of populations affected by HIV and their relevance to WFP programming. Section 2 presents the steps to designing food rations that take into account the HIV context. Users are advised to familiarize themselves with the five steps described in this section and apply them to design rations for their HIV-assisted programmes. Section 3 discusses operational considerations of planning and providing food rations in an HIV context. Section 4 discusses food aid commodities and section 5 provides examples of the ration design process. References and hyperlinks are given to provide users with further reading materials on the subject.

Section 1: Food, Nutrition and HIV



Section 1: Food, Nutrition and HIV

Nutritional requirements of people living with HIV

“Adequate nutrition, which is best achieved through consumption of a balanced healthy diet, is vital for health and survival of all individuals regardless of HIV status.”

– WHO Nutrient Requirements for People Living with HIV (PLHIV)

Scientific knowledge about the specific nutritional requirements of PLHIV remains limited, despite a marked increase in the number of scientific studies conducted in recent years.^{2; 3; 4} The table below presents the main conclusions of a WHO technical assistance group meeting convened in 2003 to examine the scientific evidence base of nutritional requirements for PLHIV.

Box 1: Macronutrient requirements of PLHIV

Nutrient	Population Group	Recommendation*
Energy	Asymptomatic HIV+ adults	Increase of ~10%
	Adults with symptomatic HIV infection or AIDS (including pregnant/lactating women)	Increase of ~20-30%
	Asymptomatic HIV+ children	Increase of ~10%
	Children experiencing weight loss (regardless of HIV status)	Increase of ~50-100%
	Children with severe acute malnutrition	No change from WHO guidelines
Protein	All population groups	No change indicated to date (10-12% of total energy intake)
Fat	Individuals who are HIV- or HIV+ but not taking antiretroviral drugs	No change indicated to date (at least 17% of total energy intake)

*Compared with normal dietary requirements from WHO. Sources: World Health Organization (WHO). “Nutrient requirements for PLHIV.” Geneva: WHO, 2003;

WHO. “Executive summary of a scientific review. Consultation on nutrition and HIV/AIDS in Africa: evidence, lessons and recommendations for action”. Durban, South Africa 10–13 April 2005. WHO, Geneva, 2005

As noted in the table, there is a 10 percent increase in the amount of energy needed by people living with HIV who have not yet begun experiencing symptoms. Energy needs increase by 20-30 percent for adults developing symptoms and by 50-100 percent for children experiencing weight loss. From a nutritional perspective, having adequate energy intake (along with adequate intake of clean water) is the most essential thing that PLHIV can do to maintain their health and weight, and to engage in normal activities. Although a lack of appetite and the symptoms of infections (such as mouth sores) may make it difficult to eat, it is important to increase energy intake once normal appetite has returned during the recovery phase from acute infection. Current evidence is insufficient to recommend increased protein or fat requirements due to HIV infection, although increasing food consumption to meet energy needs implies a proportional increase in protein and fat intake.

Vitamins and minerals (micronutrients) are vital for all people, but are particularly essential for people with compromised immune systems. At the same time, micronutrient deficiencies are very common among PLHIV. Recent recommendations by WHO concerning intake of micronutrients are provided in Box 2.

Box 2: Micronutrient requirements of PLHIV

“HIV-infected adults and children should consume diets that ensure micronutrient intakes at RDA levels. However, this may not be sufficient to correct nutritional deficiencies in HIV-infected individuals...Safe upper limits for daily micronutrient intakes for PLHIV still need to be established.”

Food insecurity and dietary diversity

Lack of dietary diversity is one of the main nutritional challenges faced by populations in the countries where WFP operates. (For example, in sub-Saharan Africa, 70-80 percent of energy consumed comes from staples and tubers.) This lack of dietary diversity is a major cause of food insecurity and micronutrient deficiencies in general, but more so for households in which chronic illness has led to poverty and changes in agricultural practices.⁵ Because HIV infection usually impacts food consumption

and utilization, it further increases the risk of micronutrient deficiencies. Therefore, it is extremely important to strive to ensure that basic micronutrient needs are met – through a diverse diet, fortified foods or micronutrient supplements.

HIV and AIDS symptoms, opportunistic infections, and their effect on food consumption, absorption and nutritional status

Advanced forms of HIV infection and AIDS, as well as medical treatment itself, are often accompanied by various symptoms that interfere with food consumption and utilization, both of which often lead to “wasting”. Wasting – the thinness associated with loss of body weight – is one of the major symptoms of AIDS.^{6; 7} AIDS-related “wasting syndrome” is defined by the US Centers for Disease Control and Prevention (CDC)⁸ as a 10 percent weight loss from baseline in a six-month period accompanied by diarrhoea or fever for more than 30 days without a known cause.

Typical symptoms experienced by PLHIV are shown in the box that follows.⁹

Box 3: Symptoms commonly experienced by PLHIV

Diarrhoea

Diarrhoea is a problem for many PLHIV; it leads to loss of water and minerals from the body. In severe cases, diarrhoea causes dehydration, poor absorption of food, significant weight loss and malnutrition, resulting in weakness and further illness.

Lack of appetite

Poor appetite is one of the most common problems among PLHIV. It can have many causes, including infections, pain (particularly in the mouth or abdomen), depression, anxiety, fatigue or poor nutritional intake.

Nausea and vomiting

Nausea reduces appetite and can be caused by certain foods, hunger, infections, stress and lack of water. It can also be a side-effect of medicines.

If vomiting occurs, the body will lose water and minerals and will dehydrate even more quickly.

Sore mouth or painful eating

Soreness of the mouth and tongue is common among PLHIV. As mentioned above, a sore mouth can make it difficult to eat, thus reducing food intake.

Digestive problems

PLHIV may have problems digesting certain foods or may suffer from constipation and bloating. These problems are caused by damage to the naturally occurring bacteria in the intestine, which are needed to digest food. The bacteria may be destroyed by antibiotics or other medicines.

Changes in taste of food

As a result of drug side-effects and infections, people may find that taste or texture of foods has changed for the worse, thus diminishing their appetite.

It is typical for PLHIV to experience repeated opportunistic infections (such as pneumonia, tuberculosis (TB) and cancerous tumors) contributing to malnutrition. Effective treatment of HIV infection or AIDS involves careful monitoring and nutritional management of these conditions. Various recommendations have been developed to help health care practitioners impart knowledge that can help family members and PLHIV manage symptoms.^{10,11} These recommendations are related to the type of foods to consume, fluid intake, meal frequency and size, rest, and other practices that can help to deal with the symptoms.

Sub-populations affected by HIV and AIDS that could be targeted through WFP's programmes

WFP provides food assistance to an array of beneficiaries that include refugees and displaced persons during emergencies, vulnerable populations (such as malnourished children or pregnant and lactating women) to improve nutrition and health, and specific population groups to help them rebuild their assets and promote

their food security. WFP food assistance also targets children through school feeding programmes. Populations infected or affected by HIV should be considered for WFP assistance if they are malnourished or food insecure, provided that all the other logistical considerations for food procurement and distribution are met.

Persons on anti-retroviral treatment

“Adequate nutrition is required to optimize the benefits of antiretroviral drugs (ARVs), which are essential to prolong lives of HIV-infected people and prevent HIV transmission from mother to child.”

– WHO Participants’ Statement, Durban Consultation, 2005

Anti-retroviral therapy (ART) consists of the consumption of specific medications to reduce the replication of HIV. Some anti-retroviral drugs (ARVs) affect nutrient utilization through changes in metabolism, distribution, excretion, and absorption of nutrients. Therefore, ART is a process of drug and nutrition management – monitoring weight changes, CD4 count and side effects, and adjusting the regime to stabilize the patient. There are also known interactions between certain foods and drugs that have been summarized in other publications.¹²

People going onto ART often suffer from malnutrition – the result of opportunistic infections, metabolic changes, and often household food insecurity. Focused nutrition interventions can “transform the prevention and management of HIV/AIDS and help get the health of children and adults ‘back on track.’”¹³

Orphans and vulnerable children affected by HIV

The impact of the HIV epidemic on children is widely acknowledged. Worldwide, 14 million children under the age of 15 have lost one or both parents to AIDS. By 2010, this number is expected to exceed 25 million. There is thus a growing concern about care and support of orphans and other vulnerable children (OVC).

It is generally preferable to place orphans or unaccompanied children with local families rather than with orphanages. But caring for an additional child can become

a burden when the fostering family is poor, or is headed by an elderly or ill person who is food insecure. A supplementary ration can ease the burden of caring for these children and enable more families to take them in.

OVC experts believe that traditional risk factors for child malnutrition among non-HIV infected children, such as insufficient intake of quality foods and diarrhea, are also major contributors to poor growth in HIV-infected children.

Based on current evidence in malnourished HIV-infected children who are not receiving ART, energy supplementation alone appears to improve weight gain but not to reverse deficits in height.¹⁴

There is evidence from Malawi that severely malnourished children who are HIV-positive respond well to therapeutic care that make use of ready to eat foods.¹⁵

Much is still to be learned about the nutritional implications of ART on children. Like adults, children with HIV/AIDS often experience wasting syndrome and frequent infections. Unlike adults, the additional nutritional demands associated with growth mean that the effects of HIV/AIDS are often more devastating for children than adults.

Children born to HIV-infected mothers

In resource-poor settings, the overall risk of mother-to-child transmission of HIV is 15-25 percent in non-breastfeeding populations and 20-45 percent in breastfeeding populations.^{16; 17}

In the latest guidelines from WHO on prevention of mother-to-child transmission of HIV, "HIV-infected women, including those on ART, are advised to opt for exclusive breastfeeding as opposed to 'mixed feeding' with bottle-feeding, water or formula feeding. HIV-infected women should avoid breastfeeding only if replacement feeding is acceptable, feasible, affordable, sustainable and safe."¹⁸ Current protocols also recommend early cessation of breastfeeding (at six months) in order to reduce risk of transmission.

Early cessation of breastfeeding presents a significant nutritional challenge to young children, as breast milk normally provides about half of the energy consumed by children aged 6-11 months. The loss of an important source of additional protein, fats, minerals and vitamins can have serious health and nutritional consequences.

Pregnant and lactating women

Nutritional requirements increase during pregnancy and lactation, independent of HIV status. Anecdotal evidence shows that pregnant women who are HIV-positive tend to be in the early stages of HIV infection, and therefore tend not to suffer extensively from opportunistic infections. Low birth weight is common among children born to HIV-infected mothers and in addition, these children often suffer from poor growth. Irrespective of HIV status, targeted food assistance has the potential to significantly improve the nutrition and food security situation of pregnant and lactating mothers and their household members, especially infants and young children.

People supported through home-based care

According to WHO, home-based care (HBC) is the provision of comprehensive services (including health and social services) by formal and informal caregivers in the home, in order to promote, restore and maintain a person's maximum level of comfort, function and health.¹⁹ In many resource-limited settings, HBC is the only way to deliver care to the patient. Around 50-60 percent of PLHIV worldwide have no access to professional healthcare workers to address their medical needs, and thus rely on HBC services.

Due to increased nutritional requirements of PLHIV mentioned on page 5, food assistance needs to be provided to malnourished or food insecure people, using the HBC network of volunteers. The implementation of HBC activities varies considerably. However, HBC teams often offer ongoing counseling and support, assistance with providing and preparing food, cooking, cleaning, wound care, hygiene, symptom assessment, pain and symptom management, identification of specific opportunistic infections, treatment of some of them, supervision of drug taking, and monitoring for drug side effects.

Recommended reading

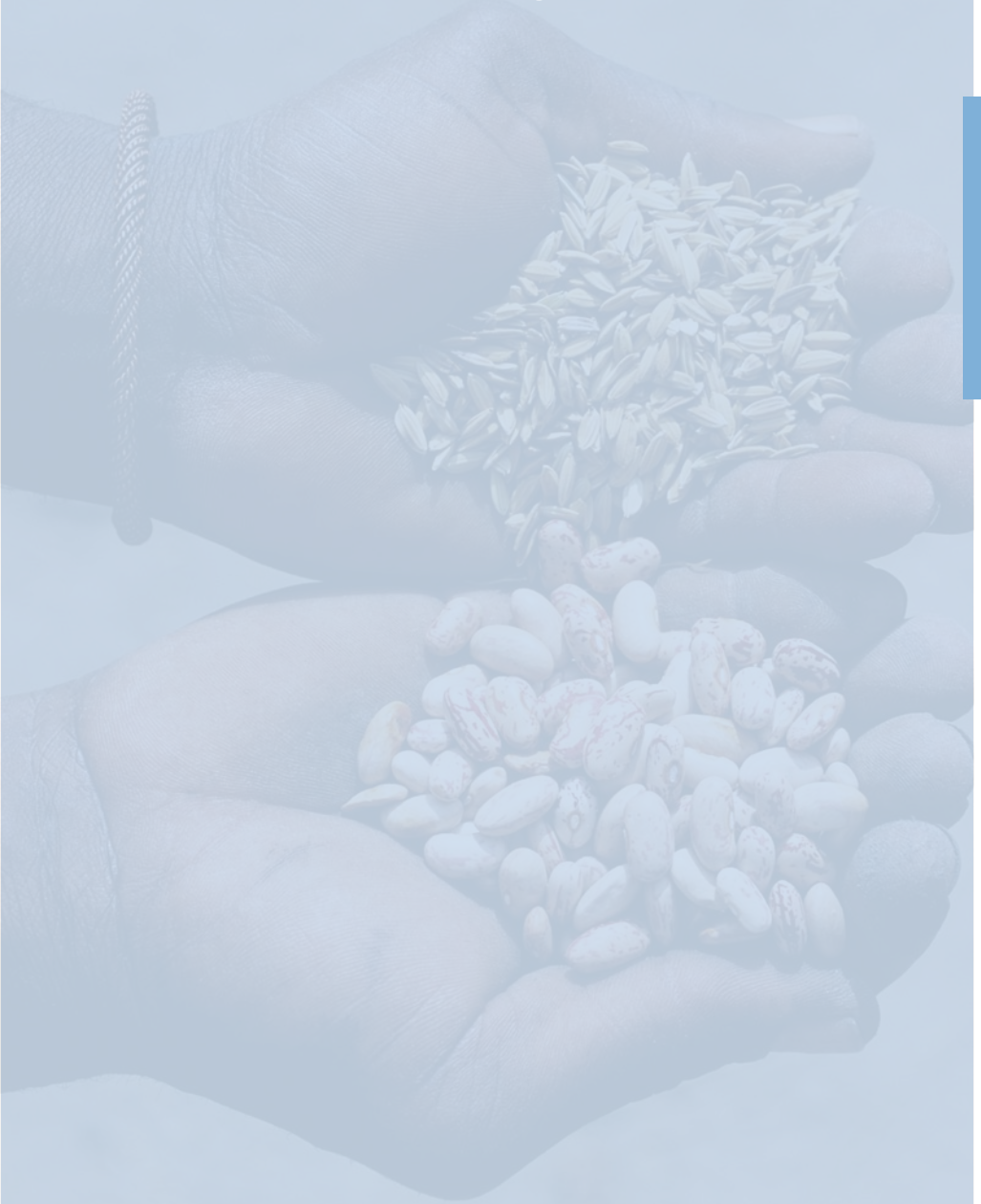
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Section 2: Ration Design—the Five Steps



Section 2: Ration Design—the Five Steps

The design of rations for food assistance programmes depends on a number of factors. This section describes five steps to help guide the decision-making process related to ration design for HIV/AIDS activities:

- **Step 1: Review the nutrition and food security situation of the targeted population**
- **Step 2: Review the objectives of the programme and the role of the ration**
- **Step 3: Determine how much food is needed to be provided and for how long**
- **Step 4: Select the most appropriate food commodities and type of rations**
- **Step 5: Consider activities to put in place to enhance the proper use of the food ration**

It is important to realize that food ration design is an iterative process, in which the five steps may be repeated. The process also requires consultation with various stakeholders, including operational and technical partners, national counterparts and preferably beneficiary representatives. Although the process mainly takes place at the stage of project formulation and preparation, the recommended ration and its subsequent use must be carefully monitored and modified if required.

Step 1: Review the nutrition and food security situation of the targeted population

The first step in the design of a ration is to review vulnerability and food security situation data of the targeted population. Data to be reviewed include:

- Proportion of the daily food requirements that can be met by household sources

- Household food stocks and storage
- Seasonal patterns of food insecurity and malnutrition
- Dietary diversity – the types of food commodities that are consumed by the household
- Nutritional well-being – the types of nutritional problems found and the percentage of people (children and adults) who suffer from malnutrition (both macro- and micronutrients)
- Food preparation practices
- Dependency ratios
- Health problems, including factors that may influence food consumption and utilization
- Household living conditions – access to fuel, safe water, sanitation, clean environment, shelter, etc.
- Characteristics of particular groups who may be more vulnerable or more at risk

The above information is normally available at the country office through reports of food security assessments and nutritional surveys of vulnerable communities. This information can also be complemented by rapid food security and nutrition assessments of the targeted population.

In the case of care and treatment programmes, other factors may need to be considered, such as:

- Enrolment in or uptake of health and care services (does food insecurity prevent the target group from seeking services?)
- Attendance at services and activities (what are the barriers to regular attendance?)
- Adherence to the medical protocol
- Speed of recovery (to what extent do providers believe that recovery from sickness is being inhibited by poor nutritional status or inadequate food intake?)

Many of these factors may be directly or indirectly related to food consumption and nutritional vulnerability.

Step 2: Review the objectives of the programme and the role of the ration

Ration design in an HIV context will be based on the programme objectives and the ration’s role in achieving these objectives. It is extremely important to be able to justify and explain the food basket in terms of what the programme aims to achieve. The first step in this process is to define the role of the food basket in achieving the objective. Table 1 provides some examples of typical objectives of food assistance in HIV programmes and the possible corresponding role of the food ration.

Table 1: Examples of food assistance objectives in the HIV context

Food assistance objective	Possible role of the ration in the HIV context
Maintain the nutritional well-being of HIV+ pregnant and lactating women	Nutritional supplement, enabler for regularly attending PMTCT services
Improve adherence to ART	Support for managing drug side-effects, enabler for regular attendance at ART site
Provide a safety net for HIV-affected households	Contribution to household food supply, income transfer, protection of productive assets, reduction in adoption of risky livelihoods
Enhance livelihoods of older OVC through livelihood training	Coverage of opportunity costs for time spent in training, incentive to attend and complete training

The objective(s) of food assistance should be directly related to the problems that have been identified and clearly defined. In the context of HIV and AIDS activities, the objectives may be related to the objectives of the programme being supported (for example, increasing adherence to drug treatment) but also may relate to the food and nutrition insecurity challenges experienced by the target group. Several examples follow.

- **When the role of a ration is to maintain or improve nutritional status**, the ration should include commodities that are high in nutritional value and appeal to the targeted groups.
- **When the role of the ration is to increase or ensure participation in services or activities**, commodities should be chosen for their incentive or monetary value as well as their nutritional value. In such cases, the ration's value must be equal to or slightly greater than the opportunity cost of participating in the activity.
- **When the role of the ration is to act as a safety net**, it must be designed to provide protection from the risks the programme hopes to help beneficiaries avoid, such as offering enough value to prevent sale of productive assets or risky behaviors.

The objective and the planned role of the food ration influence the composition and size of the food basket and may determine whether the rations will be an individual ration/supplement or a household food basket.

In general food assistance programmes (e.g. general food distribution (GFD), targeted food distribution (TFD), food for work) (FFW)), the objective may not be directly related to HIV. However, the environment in which food assistance is provided may be highly impacted by the pandemic. In such situations it may be appropriate to adjust conventional rations to accommodate the nutritional and dietary needs associated with HIV.

Box 4: HIV prevalence and its impact on general food assistance

To determine if the HIV situation in a given population warrants an adjustment of the food basket in general food support activities (relief, recovery or development), the situation needs to be carefully interpreted.

High prevalence

In high-prevalence countries, such as in Eastern and Southern Africa, HIV is so widespread that it can be safely assumed that many people are affected in some way or other and as a result may experience food security challenges.

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Of course, the actual level of food insecurity needs to be determined through appropriate assessment and analysis.

Furthermore, a large portion of the target population is likely to have particular nutritional needs associated with HIV and/or drug treatment. It is important to remember that the nutritional well-being of many people may already be compromised by limitations in appropriate food, health and care that are unrelated to the particular implications of HIV and AIDS. However, these nutritional weaknesses are likely to have implications on the effect of the disease on PLHIV as well as the impact on affected households.

In such circumstances it is important that appropriate adjustments to the food basket be carefully explored, in terms of commodities and possibly the size.

Low prevalence

In (relatively) low-prevalence regions (for example in West Africa or Asia), adjustment of the rations to accommodate a very small number of untargeted individuals, many of whom may not be able to identify themselves as HIV-positive, does not normally result in practical and effective results. However, when targeting particularly high-risk groups or those with suspected or known elevated prevalence, the ration adjustment could be considered in line with the “high prevalence” situation described above.

High impact

The impact of HIV and AIDS on certain countries may be severe, although prevalence may be low or diminishing. In countries where the pandemic hit very early on, the impact has progressed from increased HIV cases to increased deaths and numbers of orphaned children. This delayed but profound impact may require that the food basket be considered in terms of food availability, access, preparation, etc. by the affected population rather than the particular nutritional requirements associated with HIV and AIDS. The typical demographics of severely affected households may also justify an adjustment of commodity choices and/or ration size.

Step 3: Determine how much food needs to be provided and for how long

In food assistance programming, ration size should be based on specific nutritional needs of an individual or household. Basic nutritional principles apply to PLHIV as much as to all other people. WHO recommends to include 12-15 percent of protein, at least 17 percent of fat and mineral, and vitamin intakes at Recommended Daily Allowance (RDA) levels.

For food assistance in the context of general food distributions and other household-oriented food support programmes, the energy requirement is based on a weighted average of all age and gender groups within a population. The average requirement calculated on this basis uses 2100 kilocalories (kcal) as an initial planning figure, and is then adjusted based on factors such as demographic composition, ambient temperature, health and nutritional status, and physical activity level.²⁰ For targeted feeding programmes, the initial planning figure may be higher or lower than 2100 kcals depending on the population sub-groups being targeted. In some cases, the ration will complement the daily diet by offering a nutritional supplement; in others, it will take the form of an entire meal. Either way, it is important to know the age and sex distribution of the target group. For example, there are significant differences in the nutritional needs of a child under five years of age and those of an adult man.²¹

Four factors will influence the decision on the size of the ration.

Increased energy requirements of PLHIV

WHO recommendations¹ for the nutritional requirements of PLHIV call for increases in energy. The amount of this increase depends on whether the individual is an adult or child, asymptomatic or symptomatic, and experiencing weight loss or no weight loss.

It may not be realistic to assume PLHIV will consume the recommended amount of energy from a take-home ration, as one needs to take into account the fact that most of the time rations are shared among the household members.

Box 5: Some basic calculations

Total energy requirements for PLHIV

As indicated in Box 1, research has shown that PLHIV have increased energy requirements depending on the stage of the progression from HIV to AIDS. These increases are reflected as percentages of the basic requirement. In order to judge how much energy this increase represents in context of a food aid ration, it is important to know the sex and age distribution of the target group.

Example: a 20 percent energy increase required by an HIV+ woman in the age category 15-19 years is calculated as follows: $20\% \times 2120 \text{ kcal} = 424 \text{ kcal}$. The amount for men in the same age group is $20\% \times 2700 \text{ kcal} = 540 \text{ kcal}$.

Associated increases in protein and fat intake

For PLHIV the proportion of protein needs (10-12 percent of total energy) do not increase. However, with the increased energy needs, the absolute amount of protein needed also goes up. Similarly, the proportional contribution of fat to the total energy requirement does not increase for PLHIV. However, when the energy increases, so does the amount of fat required to maintain the 17 percent benchmark.

Example: a 20% energy increase required by HIV+ men in the age group 20-59 years adds up to: $20\% \times 2460 = 492 \text{ kcal}$. Of this energy, 10-12% should be provided by protein = 59 kcal (at 12%), and at least 17% should be provided by fat = 84 kcal. This translates to 15 grams of additional protein and 9 grams of additional fat to be consumed.

Total energy requirement: $2460 + 492 = 2952 \text{ kcal}$

Total protein requirement: $74 + 15 = 89 \text{ grams}$

Total fat requirement: $46 + 9 = 55 \text{ grams}$

The nutritional value of the meal that the ration is assumed to replace or complement

In some cases, the ration is assumed to complement the beneficiary's diet with key nutrients. In other cases, the ration may be assumed to cover most or all of the beneficiary's nutritional requirements (for instance, 100 percent if the targeted population relies entirely on food assistance for survival, or 40, 50 or 80 percent, according to the nutrition and food security situation). Steps 1 and 2 should provide the ration planner with enough information to help him/her determine the size of the ration according to the role he or she identified for food assistance.

The value of an income transfer that serves as an incentive for participation in services/activities or as safety net

In accordance with the food security and vulnerability situation (Step 1) of the target population, the ration planner should make a clear decision on the income value he/she wants to transfer through food assistance. The income value of the ration is the actual money value of the ration distributed to each beneficiary. In this case, the ration is supposed to free up income that would otherwise be used to buy food. The outcome of Steps 1 and 2 will again determine how much income (in terms of local currency or dollars) the ration would transfer to the beneficiaries. This will play a significant role in determining the size of the ration.

Duration of the ration

The duration for providing rations should be based on consideration of objectives and, to a certain extent, trial and error. HIV-induced food security shocks differ from other food security shocks and cannot be addressed in the same way as droughts and other natural disasters. For example, the impact of HIV and AIDS on community and household resiliency may be more severe and longer lasting than the impact of other shocks, which will influence the duration of the rations.

Table 2: Examples of duration of ration by beneficiary type and programme

Beneficiary	Objective	Duration of ration
ART clients	<ul style="list-style-type: none"> ✓ Improved nutritional status ✓ Stabilization to begin ART ✓ Improved adherence ✓ Management of drug side effects 	<ul style="list-style-type: none"> ✓ Until a client reaches a specific anthropometric target (e.g. BMI =18.5) <u>or</u> ✓ Limited timeframe: 6 months
TB clients	Improved treatment completion rate	Duration of treatment
PMTCT	Maintain or improve nutritional status	<ul style="list-style-type: none"> ✓ From 6th month of pregnancy through 9-12 months after birth ✓ Until indicators of food access improve <u>or</u> ✓ Limited timeframe, such as 6 months
Affected household	Safety net	<ul style="list-style-type: none"> ✓ Until indicators of food access improve <u>or</u> ✓ Limited timeframe, such as 6 months
OVC	<ul style="list-style-type: none"> ✓ Safety net ✓ Incentive for participation in services (e.g. school, life skills, etc.) 	<ul style="list-style-type: none"> ✓ Until a child is no longer vulnerable ✓ Duration of service

Step 4: Select the most appropriate food commodities and type of rations

Food commodities

There are several key considerations that help determine if the ration will meet beneficiary needs and programme objectives in an HIV context.

Processing requirements. Programmes should explore opportunities to provide milled cereals as well as already processed, fortified blended foods. Milled cereals take less time and energy for PLHIV or their caregivers to prepare because processing cereals often requires long walks to milling facilities – if they are available at all – as well as the strength to pound the grain into flour. Milled and processed foods come at a higher cost to WFP and as such require adequate attention in the project budget. It is important to note that if non-milled or non-processed foods are provided, the cost of milling and processing is borne by the beneficiaries rather than the project budget. The actual financial cost of milling can be quantified and rations can be adjusted to compensate for this cost. However, the cost in terms of physical burden and opportunity cost is difficult to express in monetary terms but can, particularly in extremely vulnerable households, create immense challenges. Consumption of whole grain cereals is not normally an acceptable option for chronically ill persons who experience various consumption and digestion challenges.

Preparation requirements. Chronically ill persons require a large number of small meals throughout the day, beyond the two or three meals normally prepared for family consumption. In order to prevent contamination, it is important to avoid preparing large quantities of food that will be stored and reheated when meals are required. Thus, in order to minimize the burden placed on the caregiver in charge of meal preparation, it is important to consider food commodities that can be cooked easily and quickly with minimum water, fuel wood and time requirement. Cooking time that reduces soaking should also be considered where appropriate. Partially precooked commodities such as fortified blended foods (e.g. corn-soya blend (CSB) and wheat-soya blend (WSB)), or ready-to-use foods (RTUFs) are preferred choices. Considering the susceptibility of PLHIV and particularly chronically ill persons to infections, it is extremely important that foods be adequately cooked to kill any germs and bacteria. Often the natural response to this hygiene requirement will be to cook food items for extended periods of time. However, this may also have negative consequences as many micronutrients may be destroyed by excessive heat and prolonged cooking. Thus, extensive cooking defeats the efforts and costs made in fortification of food aid commodities such as maize meal, CSB and oil.

Palatability and digestibility. Palatability and digestibility are extremely important, particularly when providing rations for chronically ill people and PLHIV, who may have

reduced appetite, eating difficulties or gastrointestinal problems. Rations should be designed to minimize discomfort or aggravation of these symptoms. Milled cereals, adequately soaked/cooked pulses and fortified-blended foods that can be made into porridges often are more palatable and easier to digest for sick persons, as well as small children or the elderly. Children often need to be encouraged to eat adequately by adding taste to the meal – sugar and/or salt are useful as flavor enhancers.

Micronutrient needs/fortification. Micronutrients are critical for all people and are vital in fighting infection. PLHIV in particular can benefit from commodities fortified with micronutrients. Therefore, it is very important for food aid rations to provide a considerable contribution to the daily intake of vitamins and minerals to make sure that minimum requirements are met. Many food aid commodities provided in kind come in fortified form, such as corn meal, wheat flour, CSB and oil. Where CSB and oil are purchased by WFP, standard specifications are used to determine the fortification levels. The fortification levels in locally/regionally produced cereal flours could be determined locally. It is important in such cases that the decision-making process includes consultation with expert organizations and considers the local fortification legislation. Although there is a trend in the fortification of commercially available foods for PLHIV to add extremely high levels of multiple micronutrients, it is important to ensure safe consumption: some micronutrients can be harmful in high doses. It is important to ensure that the added micronutrients do not cause any risk to the beneficiary or to the household members with whom they may share the ration.

Acceptability. As in all food assistance programmes, some commodities are more readily accepted and consumed by beneficiaries than others. Factors that can influence acceptability include traditional and religious diet patterns and taste preferences. For example, commodities like CSB may have high acceptability in some areas but may be considered “children’s food” and rejected by adults in other areas.

Storage. Processed foods may be susceptible to spoilage (rancidity, contamination or infestation), particularly if stored in large quantities under unhygienic conditions. Similarly it is extremely important to consider the quality of whole grain cereals and other products such as groundnuts, particularly in terms of aflatoxin contamination, which may be present in locally-stored produce. Salmonella contamination also

often occurs in foods handled and/or stored in unhygienic ways and is a major cause of diarrhoea. It is important to consider storage capacity and conditions, shelf-life of commodities and the hygiene awareness of poor households affected by HIV and AIDS when exploring the use of certain products.

Value. When the ration serves as an income transfer or incentive, the commodities must have an appropriate value in local markets. These factors determine a ration's income transfer value: What does it cost the target population to participate in the programme (e.g. transportation, daily lost wages, daily wage rate)? What is the value of other incentives that are offered (e.g. training, health services)? What is the value of the commodities to the participants? It is important to keep in mind that foods with high values may be good for income transfers but are more likely to be sold rather than eaten by beneficiaries.

Type of rations

In line with the objective of the programme and the role food rations are supposed to play, there are different types of rations, which are described below.

Individual nutritional supplements. These rations are provided when the objective of the programme is to improve the nutritional status of the targeted individual. This is the case for patients on ARV or TB treatment (for example, the first two months of directly observed treatment, short course – DOTS). When nutritional supplements are provided to take home, the quantity is normally doubled to accommodate the inevitable sharing of the ration with other household members. It is expected that supplements for adults will be shared with other family members, particularly children, to a larger extent than when supplements are provided for vulnerable or malnourished children. In addition to or instead of doubling the ration size, it is possible to provide a complementary food package for the household in order to reduce sharing of the nutritional supplement, called a “protection ration.” Individual supplements are likely to be more effective when commodities are chosen that are different from those in the household food basket and can be promoted as having particular benefits for the targeted individual. A typical commodity often chosen in individual supplements is CSB, or a similar fortified blended food. Normally, 75-100g of CSB are considered to be one additional supplement for adults. For children, this

quantity may be reduced to approximately 50g per additional meal. Where nutrient density is of importance (particularly when providing support to malnourished and/or ill individuals), it may be appropriate to include oil and sugar in the supplement. Two to three additional meals could be consumed on top of the two or three meals normally included in the household diet.

Household rations. Household rations are normally provided in programmes that aim to improve nutritional well-being, coping capacity and livelihood opportunities within the entire household. The decision to opt for this type of ration should be based on the food security situation of the PLHIV's household. These rations are based on the estimated need of the household, including food availability and access considerations as well as food utilization, dietary diversity and nutritional balance. The ration needs to make a realistic contribution to the household food basket without aiming to provide the full requirement. The food basket normally includes a balanced variety of commodities. A household ration provided to persons in care and treatment programmes may be accompanied by a nutritional supplement. To facilitate the distribution of household rations, a standard household size may be determined and the quantities of the commodities in the household package adjusted to easily manageable units.

On-site meals. In programmes where people are attending services or activities on a regular basis, on-site meals may be provided. The purpose and role of the food assistance may relate to nutritional benefits as well as regularity of attendance. This is often the case in programmes for OVC in community centres and schools, for skills training programmes, etc. When people reside in boarding facilities, such as in boarding schools, orphanages and clinical facilities, the meals should provide the entire daily food need and be complemented with fresh foods.

Take-home rations. In most situations it is relevant to provide a basic household complement as a take-home ration in order to safeguard the nutritional improvement of the targeted individual. In this case, the household package serves to protect the individual supplement from excessive sharing. Take-home rations can also be provided as an incentive to the household to encourage and support the patient/client. This may be the case in PMTCT, TB and ART programmes. A take-home ration may consist of one commodity that is considered attractive to the household

members in terms of contribution to the daily food intake and/or income transfer. This is often provided in simple packing units such as a bag of maize (preferably milled and fortified so as to make a contribution to micronutrient status of the household members) or a can of oil.

Step 5: Consider activities to put in place to enhance the proper use of the food ration

A number of activities should be considered to ensure that food rations are adequately used to achieve the objectives set out:

Nutrition counseling and education. Food assistance activities in the context of HIV and AIDS should be accompanied to the extent possible by education and counseling activities that highlight the importance of nutrition in overall well-being and demonstrate the appropriate use of the food assistance package provided. Topics could include: household utilization and distribution of the food basket; sharing of individual nutritional supplements; appropriate preparation for maximum nutritional value; and the appropriate use of limited household resources to support a balanced and diversified diet.

Improved storage and preservation. It should be kept in mind that people infected with HIV are particularly susceptible to infections caused by spoiled food. As mentioned in Step 4, it is important to consider storage capacity and conditions, shelf-life of commodities and the hygiene awareness of poor households affected by HIV and AIDS when exploring the use of certain products.

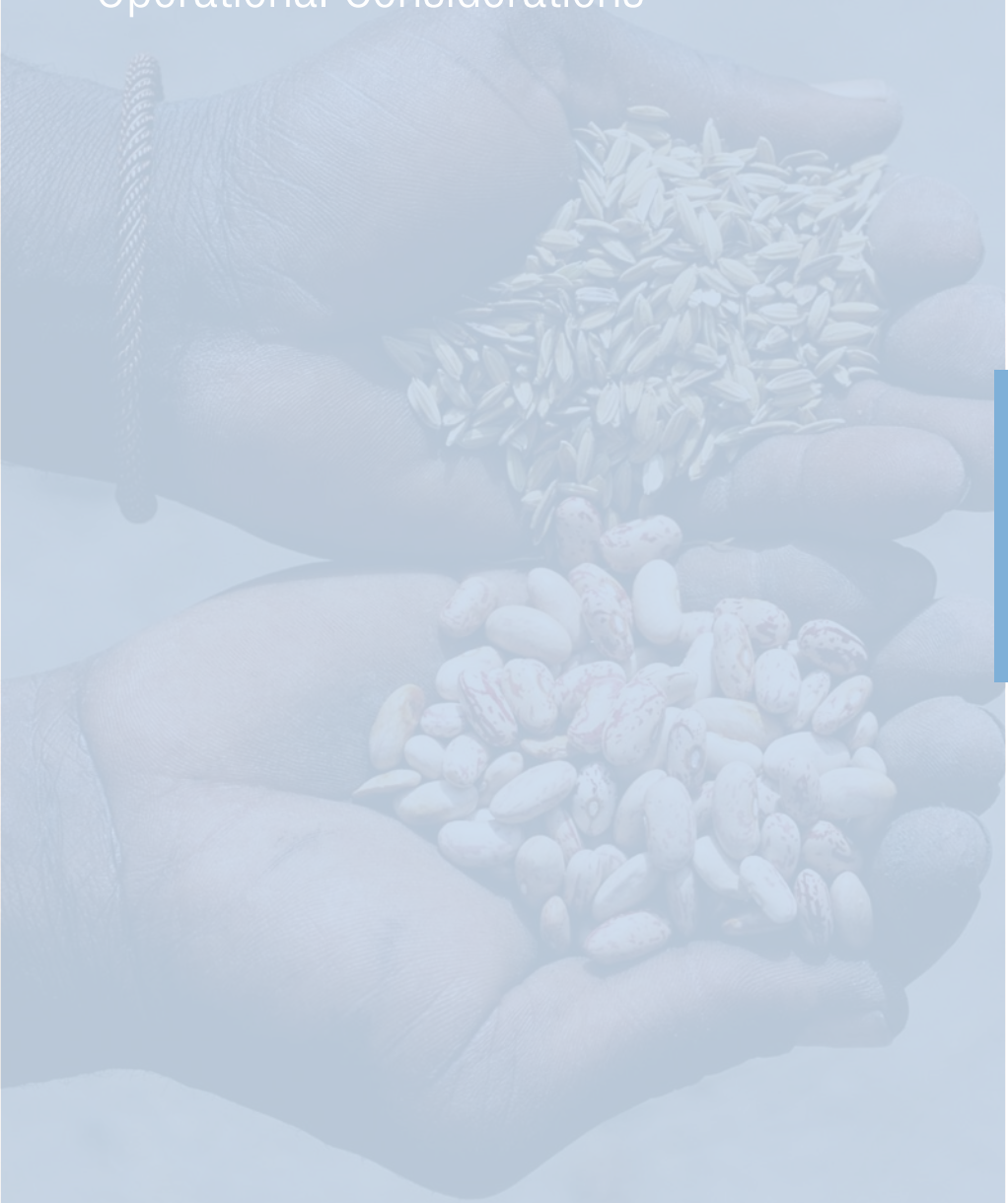
Fuel-saving strategies. It should be ensured that every family is able to cook the received food properly. Food commodities should be easy to prepare with a minimum use of fuel. Considerations regarding fuel-saving strategies are not different for PLHIV than for other people. The most usual fuel-saving strategies include: i) use of fuel-efficient stoves; ii) energy-saving cooking practices such as pre-soaking of beans and using tightly closing lids; iii) collective cooking arrangements; iv) using alternative biomass fuel rather than charcoal; and v) using non-biomass fuels such as kerosene or solar stoves.

Gardening. As food rations are usually designed as a complement to locally available food, gardening is a good opportunity to increase access to fresh food. Wherever possible, gardening should be encouraged.

Recommended Reading

1. Targeted food assistance in context of HIV/ AIDS. Better Practices in C-SAFE Targeted Food Programming in Malawi, Zambia and Zimbabwe, USAID 2004
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2. TUFTS Nutrition, Program Graduation and Exit Strategies: Title II Program Experiences and related Research, Discussion Paper n 25, April 2004
http://nutrition.tufts.edu/docs/pdf/fpan/wp25-program_grad.pdf
3. FANTA and WFP. Food Assistance Programming in the Context of HIV, Washington DC: FANTA Project, Academy for Educational Development, 2007
http://www.wfp.org/food_aid/doc/Food_Assistance_Context_of_HIV_Oct_edits.pdf
4. Canahuati J Basic Principles for Food Assisted Programs in the context of HIV/AIDS (Power point) November 2004
www.fantaproject.org/downloads/pdfs/hfa04_3f.pdf
5. HIV/AIDS: A Guide for Nutritional Care and Support. 2nd Edition. Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington DC, 2004.
http://www.fantaproject.org/downloads/pdfs/HIVAIDS_Guide02.pdf
6. Batterham MJ et al. Calculating energy requirements in men with HIV/ AIDS in the era of highly active antiretroviral therapy. European Journal of Clinical Nutrition, 2003, 57:209–17.
<http://www.nature.com/ejcn/journal/v57/n2/pdf/1601536a.pdf>
7. Gerrior JL et al. Nutrition assessment in HIV infection. Nutrition in Clinical Care, 2005, 8(1): 6-15
8. Guidelines for HIV/AIDS interventions in emergency settings. Inter-Agency Standing Committee 2003.
http://www.who.int/3by5/publications/documents/en/iasc_guidelines.pdf
9. Integration of HIV/AIDS activities with food and nutrition support in refugee settings: specific programme strategies. UNHCR/WFP 2004
http://data.unaids.org/pub/Manual/2004/integration_hiv_nutrition_strategies_manual.pdf

Section 3: Monitoring the Ration and Operational Considerations



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Monitoring

The aim of monitoring is to assess on a regular basis whether the objectives of food distribution are being achieved. Three types of monitoring need to take place with respect to food rations. They are described below.

Process monitoring

The aim of process monitoring is to ensure that food is distributed to the intended beneficiaries and that losses are minimized and accounted for. Process monitoring includes monitoring of:

- Food supply and delivery
- Food storage and handling
- Quantity of food distributed, and the number of actual vs. planned beneficiaries
- Inequalities in distribution

Post-distribution monitoring

The purpose of post-distribution monitoring is to assess whether beneficiaries were satisfied with the quality of distributed food, if the correct amount of food was received and if the distribution was timely. Information should also be collected regarding the utilization of food, i.e. if the food was consumed by the targeted beneficiaries. It is normally done on a random sample of the beneficiaries.

Outcome monitoring

The selection of indicators to be collected for monitoring the outcome will depend on the objectives of the food assistance. For TB programmes, outcome indicators

have been well established: i.e. percentage of TB patients cured after completing treatment, including food assistance. For activities related to PMTCT, ART and HBC programmes, indicators related to nutrition, quality of life and uptake of services need to be looked at.

Operational considerations

Because of the specific nature of HIV programmes, a number of operational considerations need to be taken into account when designing and preparing them. The most important considerations are highlighted below.

Shelf-life of food commodities

Most WFP commodities need to be transported and stored over extended periods of time. It is therefore important to assure a reasonable shelf-life so as to avoid spoilage of the food.

When suggesting the use of milled cereals it is important to consider that locally milled cereals may have a short-shelf-life (1-1.5 months). Although these flours/meals are of high nutritional value (due to high extraction rate), it may be difficult to include them in the food basket due to their shorter shelf-life. The inclusion of such products requires frequent delivery of commodities to the extended distribution point (EDP)/ final distribution point (FDP), high-quality storage and stock management. This has enormous implications for quality assurance and WFP's ability to manage the food pipeline. If possible, the milling of cereals should take place as close to the end user as possible.

Commercially-produced flours, milled under superior hygienic conditions and resulting in a low extraction rate product, may be used up to three or four months after milling (maize meal of US specifications has a shelf-life of about one year). Locally-produced CSB-type products normally last up to 6-12 months.

Although milling and processing of commodities may seem to complicate the operations associated with HIV support activities, their benefits to the clients are vital. Staggered procurement contracts (releasing small quantities on a regular

basis) and partnerships with local milling and fortification facilities are among the feasible solutions to help assure the quality of the food basket.

Distribution facilitation and pre-packing

In order to simplify distribution procedures and facilitate the cumbersome scooping exercise (use of measures that correspond to the calculated individual ration), WFP's partners often suggest pre-packing commodities before the ration is distributed. However, caution should be taken not to pre-pack the commodities too far in advance and keep them exposed to potentially unhygienic conditions. This may speed up spoilage and contamination and put the beneficiaries at risk.

Another option would be to pre-pack commodities at industrial level in unit sizes that are compatible with the distribution quantities. This may mean adjusting the ration sizes slightly to end up with total quantities that fit standard packaging. Where local and/or regional purchase is made, adjusted packaging specifications could be pursued. Commodities that are delivered in predetermined packaging units may be repacked/reconstituted upon arrival. This does come at a cost to the project, which could be covered under Other Direct Operational Costs (ODOC).

The use of special bags for pre-packing may offer the opportunity to mark the bags with health messages about the commodity, overall health and nutrition issues, HIV prevention education, and the like.

Pre-packing does require a compromise in household ration size as typically the "one size fits all" approach is adopted.

Pipeline coordination

Pipeline coordination comprises the management of the entire food supply chain, from donors to beneficiaries. It includes assessment and planning of food requirements, reporting on food procurement needs and the corresponding timing and measures for averting potential pipeline breaks.

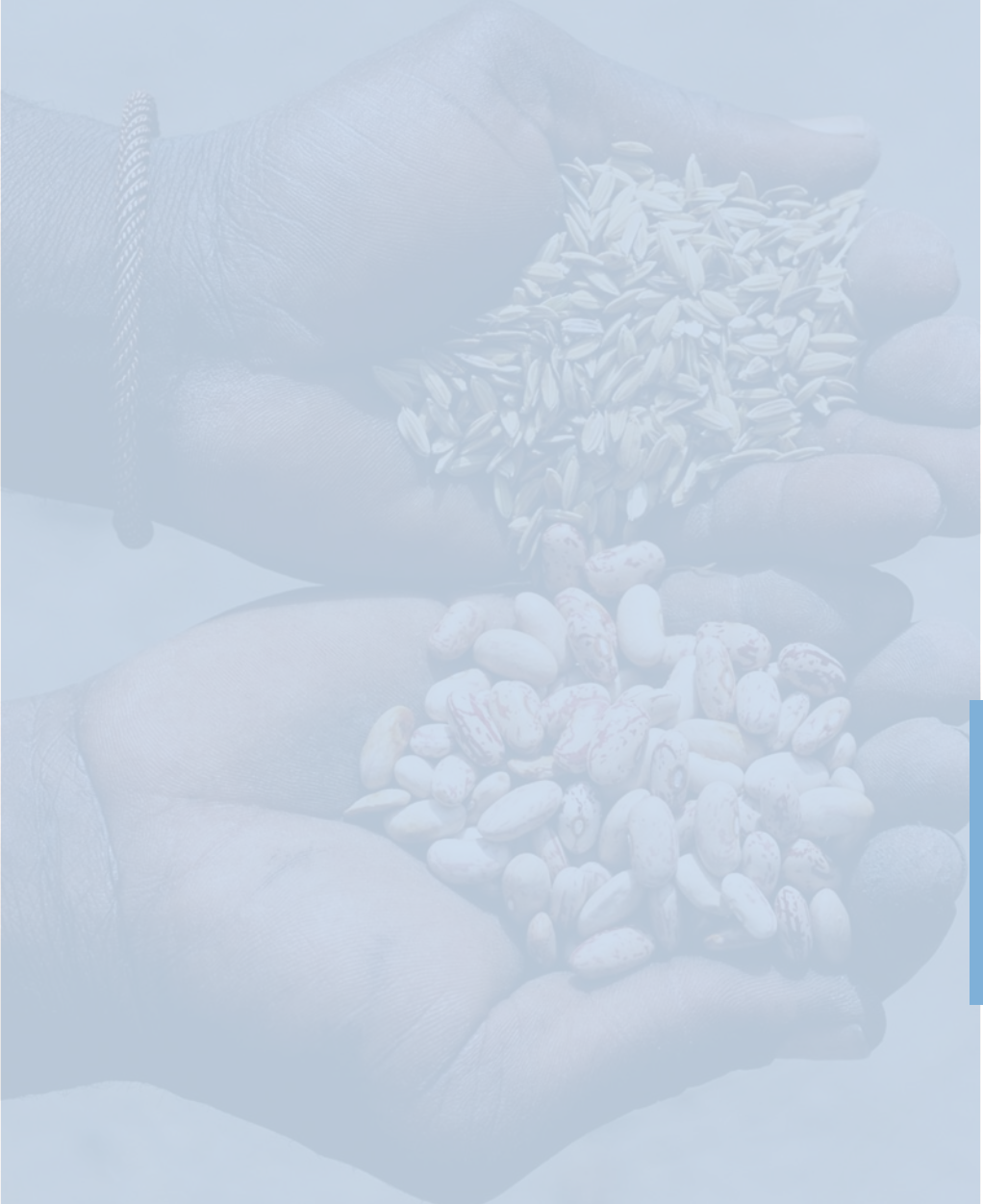
Accurate stock-keeping is the first step in pipeline management, along with a continual inventory of the beneficiary caseloads and subsequent food requirement figures, in line with agreed distribution frequency and modalities. Good knowledge of lead times for food purchase, shipping, land transport, and handling and delivery are also important.

Pipeline coordination involves timely collection, organization and analysis of all the information related to the food supply chain, in order to ensure that sufficient and adequate food is made available at the right place at the right time. In case of a pipeline break, programme managers should make every effort to ensure that food support to HIV programmes continues, as an abrupt stop could have irreversible consequences on the outcomes of certain care and treatment programmes (TB and ART, for example).

Cost

Most rations are based on a combination of cereals, pulses and oil. Some food aid commodities (e.g. canned meat, fish and biscuits) are relatively more expensive, and their routine inclusion in the ration is not advised. However, when designing rations for a targeted beneficiary group such as HIV-positive people with a low Body Mass Index, the inclusion of these commodities in the food basket could be considered. Furthermore, the provision of vegetable oil fortified with vitamin A or iodized salt incurs only marginal additional costs. WFP specifications require the fortification of these items. As scientific knowledge of the effectiveness of existing and new commodities grows, the relative cost-effectiveness of different options for specific programmes (especially those with nutritional objectives) should be considered rather than cost alone.

Section 4: Food Aid Commodities



Section 4: Food Aid Commodities

Cereals

Cereals include maize, rice, wheat, bulgur wheat, sorghum, millets, etc.

Cereals typically provide the bulk of the daily food basket and contribute mainly to the consumption of carbohydrates. In poor households, the diet is largely dominated by cereals as many people cannot afford to complement them with vegetables, pulses and animal products. This makes the diet very monotonous and largely driven by the need for energy and volume (to satisfy the hunger feeling) rather than balanced nutritional intake.

Where roots and tubers, such as cassava, yams and potatoes, are the staple foods, they play a similar role in the diet as cereals do. As WFP doesn't normally provide these products as part of its food basket, they are typically replaced by or complemented with cereals.

Although it is important that adequate cereals be considered in food aid rations in the context of HIV/AIDS, this should be done in a careful balance with commodities that provide protein and fat, which are typically lacking in the household food basket. Where cereals are provided this should preferably be done in milled and fortified form.

Pulses

Pulses include green peas, yellow split peas, beans, lentils, etc.

Pulses provide an important contribution to the protein intake of poor households. Together with the proteins in cereals they provide an adequate balance of amino acids (proteins). In better-off households, protein is also provided through the consumption of animal products such as meat, eggs and milk. Although animal protein is more easily and effectively utilized by the human body, vegetable protein sources are of great importance in the diets of PLHIV and their families. Food aid rations should

respond to the adequacy of protein rich foods within the household food basket and complement these with pulses in the food aid ration as necessary.

Pulses require careful preparation to make them palatable and digestible. Some types of pulses can be pre-cooked, making them quicker to prepare. They must be soaked, and thus require safe water. Cooking can take a long time and requires a lot of cooking fuel. Cooking time can be reduced by adding ashes or salt to the water. These special cooking requirements must be taken into account when considering the type and amount of pulses to be included in the food basket and when designing complementary education activities.

Oil

Oil provided in food aid programmes is refined and comes from vegetable sources. It is fortified with vitamin A and sometimes vitamin D.

Oil is the main source of fats in the diet. It does not contain any protein or carbohydrates. Cereals and pulses also provide some fat, and so do fortified blended foods such as CSB. In better-off households, fat intake is also supported by consumption of meats, fish and dairy products. Some households may also use animal fat sources such as butter. A vegetable source rich in oil is groundnuts. In some countries in Africa, oil is derived from palm nuts and is naturally rich in vitamin A. This type of oil tends to solidify at lower temperatures and may thus cause some challenges in food distributions.

Oil is very important in providing energy without increasing the volume of the meal – it increases the ‘energy density’. Fats are also important in facilitating the absorption of certain vitamins and they make the meal more palatable. These are important considerations when providing food rations to people who have difficulty eating as they need to consume as many nutrients and as much energy as possible in few and small meals.

In PLHIV, fat consumption is sometimes associated with diarrhea and oil should thus not be provided in large quantities. One should also keep in mind that oil is normally used for food preparation and mixed with other ingredients. It cannot be eaten on its own. Thus, the daily consumption quantity is limited.

Fortified blended foods

Fortified blended foods (FBFs) used in food aid include CBS, corn-soya milk, wheat-soya blend, pea-wheat blend, etc. Local variations are available under various names: IndiaMix, Likuni Phala, UniMix, FaMix, etc.

Blended foods are normally a mixture of cereals and pulses that has been precooked through roasting or industrial cooking (extrusion). In some cases the mix is further enriched by adding milk powder and/or sugar. An important benefit is the addition of a vitamin and mineral mix which boost the micronutrient value. Blended foods are normally used to provide appropriate supplements for infant and young child feeding and for the rehabilitation of malnourished children. In relief rations they are normally used as a means to provide basic micronutrients to the target population and particularly to vulnerable individuals such as children, pregnant and lactating women and the sick. In the context of HIV and AIDS, FBFs provide a valuable addition to the food basket for the following reasons:

- Short cooking time and reduced burden for caregivers, enabling more frequent meals
- High palatability due to smooth texture and salt/sweet taste
- Easily digested due to precooking (particularly related to the pulses)
- High-energy density (right balance of ingredients and high fat content)
- Balanced mix of macro- and micronutrients due to pre-blending and fortification

FBFs can be used as the main food in nutritional supplements but are also a valuable component of a balanced food basket.

Sugar/salt

Sugar and salt are often included in food aid rations as they provide taste to the meals and thus increase the palatability of the food. This is very important when providing food support to people with eating difficulties, particularly those who need to gain weight.

Sugar provides energy through carbohydrates. It does not provide any other macronutrient. In natural form it also does not include any micronutrients, but in some countries sugar is industrially fortified with vitamins and minerals (typically vitamin A) during the refinement process. Just like oil, sugar provides energy without increasing the volume of the meal much. This is an important consideration that may be taken into account when designing meals for people with eating problems. Oil and sugar are often mixed in meals for malnourished people to increase the energy intake.

Sugar is a refined product and can cause various complications in PLHIV who are far advanced in the progression to AIDS. For example, candida (oral thrush) can be worsened by the consumption of refined sugar. It is thus important to carefully consult with expert counterparts before including sugar in food aid rations that are focused on PLHIV.

Salt does not provide any energy. It is normally included in the food basket for purposes of taste, electrolyte balance in warm climates (making up for loss of minerals due to sweating) and, very importantly, as a carrier for iodine. As a matter of procurement policy, WFP requires that all the salt it procures be iodized. Salt provided for food aid purposes should always be fortified with iodine. Although many countries have agreed to universally fortify salt with iodine, not all consumed salt is fortified, particularly where natural salt sources are used instead of commercially refined salt. A deficiency of iodine can lead to physical problems such as goiter (enlarged thyroid) and cretinism (impaired physical and mental development). These problems may be prevalent in certain populations and are dangerous for women and small children. It is thus important to consider the iodine deficiency levels in the target population when making a judgment about the inclusion of salt.

Animal products

In food aid animal products are normally provided as canned fish, beef and cheese, and dried fish.

Animal products play an important role in providing protein, fat and a variety of micronutrients. Unfortunately such products are not often available in poor

households. Where possible, households should be encouraged to provide some of these foods to people with particular nutritional vulnerabilities, including PLHIV. Animal products should be carefully prepared to make sure they are safe to eat.

Canned meat, fish and cheese are expensive and rarely available in sufficient quantities to be used in large-scale food aid programmes. As they are industrially processed, using heat treatment, they are considered safe. Dried fish is sometimes used in food aid programmes.

Sources of vegetable protein are much cheaper than sources of animal protein, and can dramatically reduce the cost of programmes.

Dried skimmed milk

Dried skimmed milk (DSM) is sometimes available for food aid activities and can be a valuable ingredient for drinks and porridges used in nutrition rehabilitation programmes (often mixed with sugar, oil and/or combined with FBFs). The reconstitution of the milk powder requires mixing with safe water, preferably boiled. As the only way to ascertain the safe use of milk powder is to supervise the mixing, DSM is not used in household or individual take-home rations as a standalone commodity. However, it can be premixed with cereal flour or FBFs and as such enrich the food basket. Premixing should be done in hygienic conditions so as not to expose the product to contaminants or speed up the spoilage (rancidity) process.

It is strongly recommended that DSM not be used as a stand-alone commodity unless required for specific nutritional purposes and prepared and consumed under supervision.

Ready-to-Use Therapeutic Food

Ready-to-Use Therapeutic Food (RUTF) is a specialized food developed specifically for the nutritional rehabilitation of malnourished individuals. Although mainly known under the commercial name 'Plumpy Nut', various local production initiatives are developing appropriate recipes for local varieties based on the same principle. RUTF is typically made of peanut paste (variations using beans also exist), oil, sugar and DSM and are fortified with a special micronutrient mix.

RUTF is sufficiently different in appearance, texture, taste and smell from regular household food commodities to be successfully targeted to vulnerable individuals as a special nutritional supplement. Whereas it was originally developed to support community-based therapeutic care for severely malnourished children, it is currently being tried in Malawi and other countries for the nutritional rehabilitation of severely malnourished adult AIDS patients on ART. Preliminary findings suggest high acceptability rates of RUTF, and impressive changes in both weight gain and increased mobility of patients, indicating that RUTF holds great promise as a therapeutic component of HIV treatment. However, the preliminary findings need to be replicated on a larger scale.

RUTF's do have a significantly higher cost than the commodities that WFP normally uses. For example, locally produced RUTF in Malawi is estimated to cost about US\$3000-4000 per ton (possibly lower once it is mass produced) as compared to US\$410 per ton for CSB.

Due to the lack of evidence of the benefit of specialized products over lower-cost commodity options currently used in WFP's programmes, the most prudent option is for WFP to continue to use existing commodities (such as staples, pulses, oil, and FBFs) in its programmes to meet the nutritional needs of PLHIV and to carefully monitor new studies of the effectiveness of new commodities.

Micronutrient powders

Micronutrient powders (MNP) for home-based fortification are increasingly used as a way of addressing micronutrient deficiencies. Often distributed in small sachets, they are sprinkled on the food or mixed in after cooking but before eating. WFP is currently piloting the use of MNP in school feeding programmes and emergency programmes, and in the future there may be opportunities to use them in HIV programmes.

Breast milk substitute

The decision that HIV-positive mothers must make about whether to breastfeed or formula feed their children is a difficult one that involves balancing two sets of risks: the risk of transmitting the virus to their children against the significant health

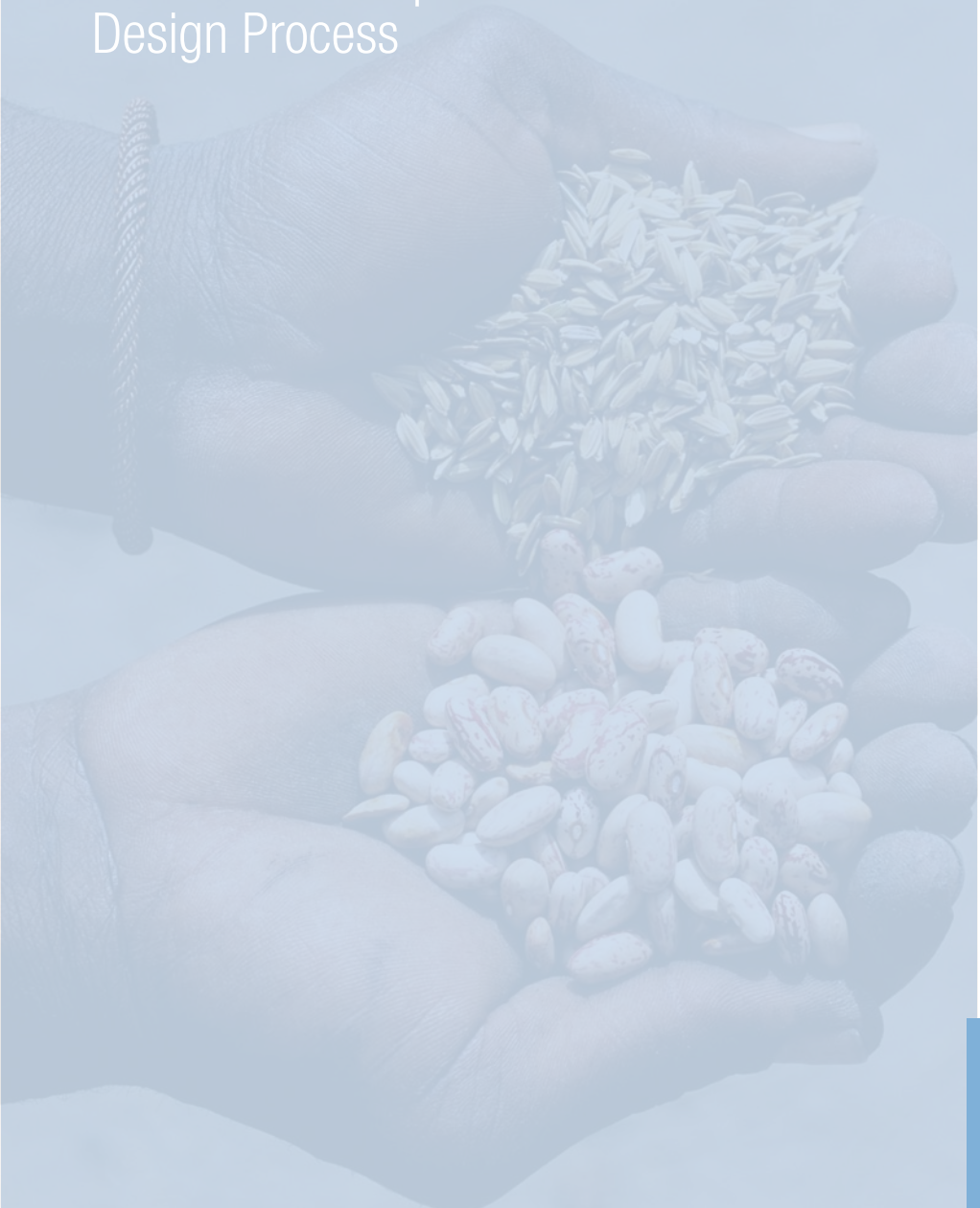
risks associated with formula feeding in unsafe contexts. WFP and other agencies recognize the right of HIV-positive mothers to make this decision. Current guidance from WHO/UNICEF states that replacement feeding may be recommended where it is “acceptable, feasible, affordable, sustainable and safe.”

While some PMTCT programmes supported by WFP may provide formula as part of the services being offered, WFP has a policy not to provide infant formula. This policy is based on: (i) concerns that the conditions outlined above for safe replacement feeding do not exist among the populations supported by WFP; and (ii) the high cost of infant formula. WFP’s Memoranda of Understanding with UNICEF and UNHCR for emergency settings places the responsibility of providing formula with those partner agencies.

Other specialized products

WFP is frequently approached by companies offering specialized food commodities produced and marketed for PLHIV. Most of these commodities have not been tested for effectiveness or adequately evaluated for safety. To ensure that WFP food commodities are safe for beneficiaries, all new products proposed for use by WFP must first be approved by the Technical Assistance Group, which is an independent panel composed of experts on food technology, nutrition and food safety. Further details can be obtained by writing to tag@wfp.org.

Section 5: Examples of Ration Design Process



Section 5: Examples of Ration Design Process

Hypothetical case: food assistance in response to drought and conflict in 'Gotongo'

Context

'Gotongo,' with an estimated population of 7.4 million (2005), is classified as a least developed, low-income food-deficit country (LIFDC) and ranked as one of the most food insecure countries in the world. It is also particularly vulnerable to recurring natural disasters (floods, drought and animal disease epidemics), while HIV prevalence is at 9.5 percent, making 'Gotongo' one of the hardest hit countries in the region. Moreover, the region has been subject to conflicts for 15 years (1991-2005), and the presence of large numbers of internally displaced persons (IDPs) and refugees continues to increase the pressure on already over-stretched natural, social and economic resources. At present, the situation has been further aggravated by exceptionally severe and prolonged droughts and poor rains over the past four years. In many parts of the country, pastoralists have lost 50 percent or more of their livestock herds; destitution, especially in the south, is on the increase. Among the coping mechanisms are over-fishing and cutting trees for charcoal, leading to severe environmental degradation throughout the country.

Effects of the conflict and drought on agriculture and food availability

Food availability varies greatly among the four areas into which 'Gotongo' is divided.

In the **Northern Province**, nomadic livestock rearing and some rain-fed subsistence agriculture are the principal economic activities.

In **Pokolo**, which covers the regions in eastern 'Gotongo,' livestock rearing and fishing are the main food production activities. Pokolo is the area of the country that

has suffered the most from the long drought cycle of 2001-2004, compounded by the effects of the AIDS epidemic.

In the **Central Region**, good rains in 2004/2005 led to improved range-land, increased water availability and livestock recovery. Consequently, livestock production and the availability of livestock products, particularly milk, have generally improved throughout the region. The recovery process also continues to be constrained by pockets of drought, localized conflicts and insecurity.

Southern Province has suffered the most from civil conflict. Since 1991, extension services, credit, pest control and agricultural inputs have not been available to farmers. As a result, overall production of staple food (sorghum and maize) has fallen by as much as 50 percent in most of the agriculturally important regions. The output of major export crops (bananas, grapefruit, and watermelons) has dropped dramatically.

Nutrition and health

In the Northern Province and Pokolo, which already had high acute malnutrition as the result of failed 2005 rains, the current rate of acute malnutrition is estimated to be over 20 percent. Food insecurity and malnutrition have been exacerbated by lack of health care, poor infant-feeding practices and inadequate sanitation and public hygiene. Recent data available from sentinel sites have estimated acute malnutrition rates to be higher than 15 percent in the southwestern areas of the country. Also, UNICEF is of the opinion that micronutrient deficiencies – including iron-deficiency anaemia, vitamin A deficiency and iodine deficiency – are serious health issues facing “Gotonguese” population. Anaemia is suspected to be high among women and adolescents, and iodine deficiency is a public health concern, as access to iodized salt is extremely low.

Objectives of WFP assistance

The overall goal of this protracted relief and recovery operation (PRRO) is to save lives and protect livelihoods while contributing to national stability and the household food security of IDPs, returnees, affected host communities and other vulnerable groups

through food aid interventions that encourage the long-term recovery of people who have suffered as a result of the conflict and recurrent natural disasters.

Objectives

The immediate objectives and corresponding WFP strategic objectives of this PRRO are to:

- save lives of people affected by conflict and disaster;
- protect and recover people's livelihoods;
- improve the nutrition and health status of children, mothers, including those in PMTCT programmes, PLHIV and other vulnerable people; and
- support access to basic education, particularly for girls.

Based on this scenario, two ration designs are presented on the pages that follow.

Exercise 1: Ration design for PLHIV in IDP camps

There are an estimated 2500 PLHIV among the IDPs, concentrated mostly in Pokolo province. ART services are not organized in the camp, but most of the PLHIV receive treatment for their chronic illnesses through home-based care services administered by volunteers. As is the case with all people living in the camps, PLHIV receive the general food distribution (GFD) ration comprised of maize meal, beans, vegetable oil, and iodized salt (2100 kcals total). Supplementary and therapeutic feeding are organized for moderately malnourished and malnourished children. Moderately malnourished children and vulnerable pregnant and breastfeeding women receive a dry ration of 1200 kcals composed of CSB, sugar and oil.

Step 1: Review the nutrition and food security situation of the targeted population

This step is accomplished by reviewing all information from assessments, surveys and vulnerability studies. Based on the review, we know that:

- Like other IDPs, PLHIV living in camps are food insecure and receive food rations through GFD
- Acute malnutrition rate is very high
- Health and sanitation conditions are very poor
- HBC services are available in the camp
- IDPs, including PLHIV, engage in negative coping mechanisms such as selling their assets (property, cattle) withdrawing children from schools, and eating only one meal
- Pokole, the region hosting most of the 2500 PLHIV was hit by drought

In conclusion, PLHIV are vulnerable and would benefit from a supplementary ration that would complement the ration they receive through GFD and allow them to take up HBC services.

Step 2: Review the objectives of the programme and the role of the ration

According to the information provided above, the objective of the programme here is to improve/maintain the nutritional well being of PLHIV and to increase the uptake of HBC services in the camp. The food aid would play the role of nutritional supplement and enabler for HBC services in the camp.

Step 3: Determine how much food needs to be provided and for how long

We know that the encamped population receives GFD rations that normally provide 2100 kcals per person. Taking into consideration the increased energy requirements of PLHIV (see Box 5), we should increase the ration of PLHIV by 500 kcal (equivalent to a 20 percent increase), which can be doubled to take into consideration the intra-household ration sharing. Ideally, the ration should be given until indicators of quality of life (primarily weight gain) improve, but should be limited to an average of six months.

In conclusion, a supplementary ration of 1000 kcal should be given for a limited period of time, to be determined by periodic assessments.

Step 4: Select the most appropriate food commodities and type of rations

Among the many considerations that should help decide on the choice of food commodities and type of ration, the most important in this context are probably palatability and digestibility, fortification and micronutrient content. The complementary food basket should consist of CSB, oil and sugar as they are already provided through the general distribution to the encamped population.

In line with guidance beginning on page 23, the obvious solution here would be to give complementary rations as take-home rations to PLHIV through HBC services.

Step 5: Consider activities to put in place to enhance the expected benefits of the food rations

Potential complementary activities could include nutrition education, hygiene and sanitation sensitization and, if climactic conditions allow it, gardening.

Exercise 2: Ration design for OVC in Southern Province

The Southern Province is host to an estimated 35,000 OVC, including some 12,000 attending schools supported by WFP. Most of the OVC live in foster families, despite the increasing reluctance of some families to take in OVC due to socio-economic constraints. With the ongoing multi-sectoral crisis, it is feared that more families will be forced to withdraw OVC from schools and even worse, abandon OVC who are already hosted.

Step 1: Review the nutrition and food security situation of the targeted population

A review of vulnerability and food security data reveals that:

- The region, host to most OVC, is the one that has suffered the most from the civil war, leading to a collapse of the economy, weakened livelihoods among families, and increased destitution
- Families who take in OVC are very poor and food insecure
- OVC are dropping out of school because foster families cannot afford to pay school fees

In conclusion, families hosting OVC need a livelihood support to encourage them to continue to take in OVC and keep them in school.

Step 2: Review the objectives of the programme and the role of the ration

The objective of the programme would be to provide a safety net for foster families and increase the number of families who take in OVC. Another objective could be to maintain or improve OVC school attendance. The role of food aid could be to contribute to household food supply or income transfer.

Step 3: Determine how much food needs to be provided and for how long

In line with the objectives and the role of food aid outlined above, and in line with the findings from the assessments, let's assume that it was decided that the ration should aim to transfer an equivalent of US\$4 per day (4000 'Gotongo' Francs (GF)) to assisted households. The composition of this ration will be determined at Step 4. The ration should be given in principle until food security indicators improve; but for practical reasons, it may be decided that food support will be provided for

12 months, at which time an assessment will determine whether food support can be continued or the household can be transferred to another programme, such as a food security or social protection programme.

Step 4: Select the most appropriate food commodities and type of rations

In the context of 'Gotongo,' the agreed transfer of 4,000 GF per beneficiary per day (see above) would be equivalent to 10kg of cereal, 1.2kg of pulses, 600g of oil and 600g of oil per month per beneficiary. This would translate into 50kg of cereals, 6kg of pulses and 3kg of oil per assisted household of five beneficiaries per month.

Step 5: Consider activities to put in place to enhance the expected benefits of the food rations

Nutrition counseling and education should be emphasized, along with improved storage and preservation, and gardening (see guidance on pages 28 and 29).

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Planning a food ration for a population that is affected by HIV



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