

# Part Two

## GUIDELINES FOR SELECTING FOOD AID COMMODITIES

### AN OVERVIEW

#### I. INTRODUCTION

The Commodities Reference Guide (CRG) provides relevant information about food commodities that are used in PL 480 Title II programs. Part One of the CRG contains Sections I through IV, which contain descriptions of food commodities available through PL480, Title II and their nutritional values and physical properties. Part One also includes important general information regarding the safe and effective storage and use of rations for use in Title II programs. Part One may be found online at [www.usaid.gov/hum\\_response/crg](http://www.usaid.gov/hum_response/crg).

Part Two provides programming information and considerations for selecting food aid rations for different program scenarios, including an overview and five program modules. The overview consists of a description of USAID's Office of Food for Peace (FFP) mandate, the types of programs it has approved and outlines the general approach to selection of food commodities used in the modules. The five program modules are the following: Module 1: Maternal Child Health and Nutrition; Module 2: Food for Work; Module 3: Food for Education; Module 4: Non-Emergency Humanitarian Assistance, and Module 5: Emergency. Part III consists of five annexes, which include USAID and select food security definitions, a resource list of indicators, and tables for use in calculating food aid ration packages.

The information presented in Part Two is not intended to substitute for the detailed guidance provided annually by the Office of Food for Peace, the monetization manual, or the USAID food aid and food security policy paper. For guidance on the development of proposals see FFP's Title II Guidelines for Development Programs available online at [www.usaid.gov/hum\\_response/ffp/dappaa.htm](http://www.usaid.gov/hum_response/ffp/dappaa.htm) or PVO Guidelines for Title II Emergency Food Proposals and Reporting (Draft) also online at [www.usaid.gov/hum\\_response/ffp/emerg.htm](http://www.usaid.gov/hum_response/ffp/emerg.htm). Additional information can be found at the Food Aid Management website [www.foodaid.org](http://www.foodaid.org). Examples provided in this section are meant to be illustrative and do not attempt to cover all the ways in which rations may be used in programs. Part Two provides links to relevant program and policy documents as well as key web sites useful to cooperating sponsors (CSs) implementing Title II food aid programs.

## **II. OFFICE OF FOOD FOR PEACE'S MANDATE AND PROGRAMS**

The overarching goal of the PL 480, Title II resource is to improve the food security of vulnerable populations around the world, either by the direct distribution of food aid commodities or the use of local currencies generated by the sale of these commodities. Food for Peace has the responsibility for administering PL 480, Title II food aid programs. This responsibility includes the review and approval of CS food aid program submissions, monitoring of program implementation and reporting to the U.S. Congress on progress made against established performance indicators. The CSs are generally U.S. and local PVOs and international organizations, such as the World Food Program (WFP).

Development and emergency food aid activities complement one another in achieving USAID's strategic goal of long-term food security. In crisis prone regions, for example, emergency food aid is used to rapidly respond to reduce human suffering caused by natural and man-made disasters while simultaneously laying a broader foundation for longer-term food security. Similarly, in development activities food aid helps to mitigate emergencies. An intermediate program supported by Food for Peace is the Short Term Development Program or Transition Activity, which takes a program from an emergency function to a more long-term development activity. A brief explanation of development and emergency food aid programs are as follows:

### **A. DEVELOPMENT FOOD AID PROGRAMS**

PL 480, Title II development food aid constitutes the single largest source of USAID funding for food security programs. As a development tool, food aid is a flexible resource that can be used for direct feeding or monetized (sold) to generate local currency for development activities. Food aid is usually one component of a multifaceted development program and is used to help achieve program objectives. The majority of Title II development programs support the following major areas: (1) household nutrition and health; (2) agricultural productivity and natural resources management; (3) education; and (4) non-emergency humanitarian assistance for vulnerable groups.

#### **1. HOUSEHOLD NUTRITION AND HEALTH**

Household nutrition depends not only on sufficient quantity and quality in the household diet and food, but also on health, child care, and the environment of care (e.g., water and sanitation). Activities to improve household nutrition can aim to do so in various ways, for example an objective could be: to reduce malnutrition, increase micronutrient consumption, promote breast-feeding, improve ante-natal care, and ensure immunization against preventable diseases. Title II food assistance directly supports interventions that aim to improve nutritional status and mother and child survival worldwide.

Guidance for food aid components for activities that support Maternal Child Health and Nutrition (MCHN) can be found in *Module 1-MCHN Programs*.

#### **2. AGRICULTURAL PRODUCTIVITY AND NATURAL RESOURCES MANAGEMENT**

Agricultural productivity and natural resources management efforts promote sustainable farming practices, more productive and diversified farming techniques, and improved post-harvest management and marketing. Under this sector, Food-for-Work (FFW) and Cash-for-Work (CFW) programs may be used to generate employment and construct infrastructure that has the potential to improve agricultural

productivity or income, and, in turn, household nutrition. FFW is typically targeted seasonally as well as geographically, focusing on areas and seasons that are most food deficit. For example, food assisted community infrastructure projects can provide short term employment to keep farmers near their fields and families, forestalling migration in search of wage work elsewhere. Food for Work programs are largely used to support development efforts, but are also used to support reconstruction after emergencies. A part of the Title II development portfolio includes support to microenterprise credit activities often managed by women and women's groups. *Module 2-Food for Work Programs* provides principles and examples of how rations are selected for FFW activities.

### **3. EDUCATION**

USAID uses food aid to help improve educational opportunities by providing school snacks and meals and take-home incentive rations. These Food-for-Education (FFE) programs are used to encourage school enrollment and attendance, and to improve students' attentiveness—especially for those who receive no breakfast at home. Food insecure communities with poor school attendance and low-test scores are usually selected as the primary target for this type of assistance. Some programs specifically target girls. Principles and examples of ration selection in FFE programs are provided in *Module 3-Food for Education Programs*.

### **4. NON-EMERGENCY HUMANITARIAN ASSISTANCE**

NEHA is designed to respond to crises as well as to feed those who are not able to take advantage of development activities in their communities. It exemplifies a longer-term effort to provide safety nets to vulnerable populations while providing a rapid response to rapid onset disaster. Beneficiaries include orphans, the elderly, patients in hospitals and families affected with HIV/AIDS. NEHA is generally provided through direct feeding programs and, frequently, in conjunction with other assistance activities. Principles and ration selection guidelines for NEHA programs are described in *Module 4-Non-Emergency Humanitarian Assistance Programs*.

## **B. EMERGENCY FOOD AID PROGRAMS**

Typically, emergency relief activities are a combination of general and targeted food distribution. General food distribution provides food rations for the whole population most affected by a disaster, including refugees and internally displaced populations (IDPs). Targeted food distribution provides food only to a selected group who is the most vulnerable within the larger emergency-affected population. Common groups for targeting include: young children, especially those under five; orphans or unaccompanied children; pregnant and lactating women; the elderly, sick, or handicapped; and those identified as malnourished. Targeted food distribution activities can be implemented in one or more of several ways : supplementary feeding, therapeutic feeding, and food-for-work.

Emergency food aid programs may use a combination of components and should evolve over time based on information from continuous needs assessments. For example, an emergency activity that begins as a general feeding program serving all members of a population may evolve over time into a food-for-work or food-for-agriculture activity targeted to only a portion of the population. This evolution should correspond to recipients' growing self-reliance and facilitate the transition from relief to sustainable development.

While planning emergency activities, CSs and USAID endeavor to: (1) design relief interventions that do not promote aid dependency; (2) target food aid so that it reaches the most vulnerable populations in a timely manner; and (3) incorporate activities that ease the transition from crisis to recovery by linking relief to development. Examples of the use and selection of food aid commodities for emergency situations may be found in *Module 5-Emergency Programs*.

### C. MONETIZATION

Monetization involves the sale of donated commodities overseas followed by the use of the funds to support some humanitarian or development activity. For a detailed treatment of monetization activities, see the USAID Monetization manual, which is posted on the USAID webpage [www.usaid.gov/hum\\_response/ffp/monetiz.htm](http://www.usaid.gov/hum_response/ffp/monetiz.htm).

### III. WHEN TO USE FOOD AID

There are many factors that determine if food aid is appropriate. While each CS has developed its own set of programming documents, several USAID-supported technical assistance projects have worked with CSs and USAID to harmonize their practices. Any new PVO entering the field today has the benefit of the collective experience of counterparts who have been implementing food assistance programs for decades.<sup>1</sup>

A primary concern in all Title II food aid programs is that the food aid not be a disincentive to local food production or markets and that it not disrupt a country's usual marketing requirements (UMR). To determine if food aid will be a production disincentive for local farmers, PL 480 legislation requires that a Bellmon analysis and determination be conducted. It is also important to emphasize that food aid should not displace fundamentally sound dietary practices of the recipient population. The basics on the Bellmon analysis and determination are identified below.

#### BELLMON ANALYSIS AND DETERMINATION

Disincentive (Bellmon) analyses are presented with development (non-emergency) project proposals to the local USAID Mission Director. The analysis must show that:

- The commodity is suitable for monetization or distribution in that country;
- There are adequate storage facilities in the recipient country;
- Commodity distribution or monetization will not act as a substantial disincentive or interfere with domestic production or commercial marketing of the commodity.

Guidance on how to carry out the Bellmon analysis may be found online at [www.usaid.gov/hum\\_response/ffp/bellmon.htm](http://www.usaid.gov/hum_response/ffp/bellmon.htm).

## IV. GUIDELINES FOR COMMODITY SELECTION

FFP recognizes that there is no such thing as “one size fits all” in program design and that no one ration can be appropriate for every context. For this reason, Part Two provides general guidelines, allowing for flexibility in different situations. Specific documents on how to design, manage, monitor and/or evaluate Title II programs can be found in the Resource List at the end of this chapter. The guidelines below pertain to all five program modules set forth in this CRG, which are as follows:

<b>Module 1:</b>	Maternal Child Health and Nutrition Programs
<b>Module 2:</b>	Food for Work Programs
<b>Module 3:</b>	Food for Education Programs
<b>Module 4:</b>	Non-Emergency Humanitarian Assistance Programs
<b>Module 5:</b>	Emergency Programs

With the exception of *Module 5-Emergency Programs*, the modules correspond to the beneficiary categories of the annual estimate of requirements (AER) of food commodities for development activity proposals (DAP) or previously approved activities (PAA) used by CSs.<sup>2</sup>

The principles for selecting the most appropriate and cost-effective commodity rations to accomplish program objectives are organized in five general steps as follows:

1. Program Design
2. Suitability of Food Commodities
3. Ration Specifications
4. Ration Calculation
5. Ration Ranking and Selection

### STEP 1: PROGRAM DESIGN

The five key program design considerations when using food aid are usually: (1) carrying out a needs assessment; (2) determining the appropriate use of food aid; (3) identifying characteristics of the target population; (4) developing program activity objectives; and (5) determining the distribution mode and frequency. For the most recent and detailed guidelines on proposal development see FFP’s *Title II Guidelines for Development Programs* ([www.usaid.gov/hum\\_response/ffp/dappaa.htm](http://www.usaid.gov/hum_response/ffp/dappaa.htm)) or, for emergency programs, *PVO Guidelines for Title II Emergency Food Proposals and Reporting-Draft* ([www.usaid.gov/hum\\_response/ffp/emerg.htm](http://www.usaid.gov/hum_response/ffp/emerg.htm)). An explanation of each design component follows:

#### 1. Carrying Out a Needs Assessment

As the food aid component of a program is designed, it is important to articulate why food aid is

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<sup>1</sup> Several sources of information and assistance are available from USAID-supported Food Aid Management (FAM). They can be reached at: [www.foodaid.org](http://www.foodaid.org)

<sup>2</sup> USAID/BHR: Check for the most recent guidance also: *Title II Guidelines for Development Programs*. January 2000. [www.usaid.gov/hum\\_response/ffp/dappaa.htm](http://www.usaid.gov/hum_response/ffp/dappaa.htm)

needed and how it will be used to meet program goals. A needs assessment or problem analysis will help to identify the nature, extent, severity, and distribution of the food needs, and, in turn, help determine which type of food aid intervention would be most appropriate. Needs assessment should include analyses of food availability and the main causes of malnutrition, and summarize resources and capacities for action. Attention should be given to how problems in the priority technical and geographic areas are already being addressed.

Information about the target population's demographic profile, nutritional status, food consumption patterns, breast-feeding practices, health statistics, socio-economic statistics, and other basic information needs for program design can be attained through primary data collection, using methods such as qualitative research, food consumption surveys, and nutritional status surveys. A useful publication on how to use these methods is USAID/CDIE's *Performance Monitoring and Evaluation Tips*, which is available online at [www.dec.org/usaaid\\_eval](http://www.dec.org/usaaid_eval). Useful information can also be obtained from secondary sources, but should be verified with local key informant interviews. Other information about the collection of primary data and secondary data resources may be found in the Resource List. Project design, data collection, and analysis for all methods should be conducted under the supervision of experienced professionals. Please refer to USAID/BHR's Title II Guidelines for Development Programs 2000 for further guidance on developing a needs assessment ([www.usaid.gov/hum\\_response/ffp/dappaa.htm](http://www.usaid.gov/hum_response/ffp/dappaa.htm)).

## **2. Determining the Appropriate Use for Food Aid**

Experience shows that food aid is most appropriate for achieving the following objectives: (a) meeting the nutritional requirements of vulnerable target groups; (b) rehabilitating malnourished individuals; (c) improving school enrollment or attendance rates; (d) improving attendance at health clinics or community centers; and (e) increasing agricultural income and productivity. To these ends, food aid can be used as a nutritional supplement, a wage for service rendered, an incentive to participation, etc. Naturally, each of these different activities will involve different targeting, rations, and graduation criteria.

## **3. Identifying Characteristics of Target Population**

Results of the needs assessment will drive targeting decisions. Food aid can be used differently to address the needs of different target groups. Typical characteristics by which members of a target population or group are identified include age, nutritional status, gender, physiological status (e.g. pregnant, lactating, chronically ill), geographical location, etc. For example, the target beneficiaries might be children under 2 years of age, malnourished children under 5 years of age, pregnant and lactating women, people over 60 years of age, refugees, households of farmers living in a drought affected area, residents of a TB sanatorium, etc.

## **4. Developing Program Activity Objectives**

Food commodities and rations should be selected in a manner consistent with program objectives and the target group. For example, an intervention to improve nutritional status of a population might target underweight children while, in another case, food aid may be used as an incentive to motivate pregnant women to attend prenatal clinics. Provision of food aid is one input in such program designs.

No matter how the food is used, the desired result of the food assistance intervention should be stated in terms of objectives. Then, food commodities and rations can be selected to be consistent with these objectives. Each CS has its way of expressing objectives. However, using USAID's Managing for Results Terminology will facilitate reporting to USAID, (See Annex 1 in Part Three )  
HYPERLINKObjectives for USAID-funded programs should be result statements, that is, they should clearly describe the desired end results of the intervention) For example, a results-oriented objective would be "*Improved nutritional status of children under two years of age*".

USAID recommends that there be at least one indicator to track progress toward the achievement of each objective/result. These indicators, referred to as performance indicators, are variables with a particular characteristic or dimension that can measure progress. Resources for sample food security and nutrition indicators can be found in Annex II (HYPERLINK). USAID/CDIE's *Performance Monitoring and Evaluation Tips* ([www.dec.org/usaaid\\_eval](http://www.dec.org/usaaid_eval)) provides guidance on how to develop objectives and choose performance indicators. Whenever possible, programs should include input as well as impact indicators for measuring progress of food aid programs. Each CS's resources to monitor and evaluate programs are different, and this will be taken into consideration during USAID's food aid proposal review and approval process.

CSs should also provide baseline data for selected indicators or a plan for collecting these data. Baseline studies should be conducted as part of the needs assessment, but may be accomplished immediately after activity approval. CSs should also articulate an evaluation and monitoring plan that outlines how indicators will be tracked.

## 5. Determining the Distribution Mode and Frequency

The mode and frequency of distribution should depend on program objectives, costs to both the distributors and beneficiaries, the local context, characteristics of the target group, and the type and quantity of the rations. It is best to choose the distribution method or methods that will cause minimal disruption to the recipient's daily activities while best achieving program objectives. The types of response mechanisms range from serving meals of prepared foods (on-site feeding), to distribution of uncooked food to carry home (take-home rations) to the sale of food to get cash that is used to support program activities (monetization).

**On-site (wet) feeding** involves preparing and serving ready-to-eat (wet) rations at designated sites outside the home. Most commonly on-site feeding is provided at institutions where beneficiaries reside or at designated feeding centers. The frequency of on-site feeding is one or more times daily, every day or several days per week. The advantage of on-site feeding is that food rations are eaten under supervision, which helps to ensure that the food supplement is actually consumed by the target beneficiaries. Disadvantages of on-site feeding are that it is costly and labor intensive and the food may substitute rather than add to recipients' diets when the family does not provide a meal at home because the recipient has received meals at the feeding center (substitution).

**Take-home dry rations** are uncooked food rations carried home where it is prepared and consumed. The frequency of distribution will depend on program objectives and practical logistics, both on the side of the distributors and the recipients. The advantage of take-home rations is that they are easier to administer, more cost-effective, less time consuming for recipients, and can reach larger numbers of recipients. However, dry rations intended for one family member may be shared with other family

members (leakage) or might be sold/exchanged in the market place, thereby reducing nutritional impact on the intended beneficiary.

**SUBSTITUTION:** A World Food Program study found that substitution with on-site feeding programs ranged from 37-53% of energy compared to a leakage of 46-82% if the ration was taken home.

*Source: Supplementary Feeding for Mothers and Children: Operational Guidelines, FAO, 1998, p.44*

**LEAKAGES:** Self-targeting May Not Always Work: A study by SUSTAIN on the micronutrient content of food aid commodities found that corn soy blend food rations in Haiti, which were assumed to be self-targeted to weaning age children, was in fact being used to make soup dumplings for the entire family.

*Source: Micronutrient Assessment Project Final Report, SUSTAIN, 1999*

**Food-for-Work (FFW)** activities generally involve distribution of take-home rations as payment for work done or services provided, or as an incentive for participation in training activities. In these activities, food takes on importance to families both for its income transfer (monetary) value as well as its nutritional value. The frequency of distribution will depend on local circumstances and the nature and size of work accomplished. Recipients might receive food only once, when the work is completed. In cases where the project is large and continues for an extended time period, there might be distribution at regular intervals as the work progresses, e.g., weekly or monthly. The food distributed is primarily intended as compensation for work performed, although nutritional support may be a secondary objective. In situations where food insecurity and unemployment is a significant problem, and improvements in public infrastructure, remuneration of participant's time for training, and/or compensation for decreases in food production while improved technologies are being implemented may be necessary, FFW may be the most appropriate intervention. In these situations, FFW would provide targeted families with employment and food while avoiding any dependency that might be associated with direct free food distribution activities.

**Monetization** involves the sale of donated commodities in the target country to get cash to support various humanitarian and development activities. Monetization allows CSs to design and implement more flexible and responsive food security programs. Detailed guidance on the monetization of Title II commodities is available online at [www.usaid.gov/hum\\_response/ffp/monetiz.htm](http://www.usaid.gov/hum_response/ffp/monetiz.htm).

All food aid activities should be designed to increase the recipient's self-reliance and self-esteem. This may be accomplished by encouraging the affected population to provide their comments on the mix and size of the ration, food payment ratios, the distribution system (daily, weekly, monthly, etc.), and the performance monitoring system. Use of this type of programming approach helps preserve the dignity of the recipients and contributes to program effectiveness.

## **STEP 2: SUITABILITY OF FOOD COMMODITIES**

The suitability of a ration should be assessed with regard to the needs and preferences of the targeted individuals, households, and community. A ration is suitable if it can be utilized effectively to achieve



intended objectives. Aspects of suitability of food rations to consider, include beneficiaries' nutritional needs and physiological capacities, food consumption preferences and patterns, locally available foods, community and household food processing and storage capacities and local market prices. Below are key factors that should be taken into consideration when developing a list of appropriate commodities for ration packages:

**Cultural suitability** includes factors such as traditional diet patterns, taste preferences, and foods avoided for cultural or religious reasons that will affect food use and consumption. For example, Brazilians prefer black beans while Nicaraguans prefer small red beans. Another important consideration is whether the commodities are culturally suitable for the particular role they are to play in the project. For example, in a take-home MCHN program with a nutritional objective, blended foods, perceived as "baby foods", may be less acceptable to other family members and, thus, more likely to be consumed by the young child.

- **Nutritional content** is the nutritive content of the food commodity. Major nutrient considerations should include energy (calories), protein, fat, and micronutrients (vitamins and minerals). Characteristics of the target population, especially in terms of their age, body size, activity levels, health, nutritional status, reproductive status, and environmental factors, such as ambient temperature, are the primary determinants of nutritional needs.

**Physiological appropriateness** relates to physical characteristics of the food commodities, such as the bulk, ease of chewing, viscosity, or digestibility, that affect their consumption and use in the body. Choices should consider the capabilities and limits of the target group. For example, children less than 24 months have smaller stomach size and are less able to consume enough high bulk foods, such as grains, to meet their caloric needs. Physical characteristics of a food ration are also important for children or adults who are severely malnourished, the sick and the elderly. People with HIV/AIDS infections while needing extra energy and protein also find it difficult to eat certain types of foods. Availability of processing and/or storage facilities at both the community and household or institutional levels, fuel demands and availability, time and labor for preparation and cooking time, and availability/absence of cooling equipment need to be considered.

**Relationship to locally produced food** should be examined because it may complement the imported Title II food aid. The timing of harvests, seasonal shortages of staple foods and affordability of local foods should also be considered. Ideally, the most cost-effective food aid commodities to achieve the desired result should be selected.

**Cost:** The value of a commodity on the local market will affect the demand for the food by the recipients. Foods with high prices on the local markets may be good for income transfer, but may be more likely to be sold rather than eaten by recipients.

### STEP 3: RATION SPECIFICATIONS

Program objectives and characteristics of the target groups(s) should drive the decisions about ration specifications. Below is guidance for developing ration specifications for nutritional as well as income transfer considerations:

## 1. Determining Nutritional Values

Filling the nutrient gap in a beneficiary's diet is one objective of food aid programs. For programs with this type of objective, the definition of that nutrient gap is the basis for determining how much and what kind of food is to be provided. Additional food may be needed to recuperate the malnourished, overcome substitution effects (when home diets are reduced because of on-site feeding), or account for take-home rations shared within the household (leakage). Taking all these factors into account, the nutritional value of the ration package should be established in terms of the minimum energy, fat, protein, and micronutrient content needed per person per day to meet project requirements. A ration package will generally consist of two to three commodities.

The use of specific donated food aid should be consistent with appropriate feeding guidelines including exclusive breast feeding for infants under 6 months of age and continued, frequent on-demand breast feeding to 24 months and beyond. For children 6 to 24 months, it is important to gradually increase food thickness and add variety as the child ages. For more information on young child and adolescent feeding, refer to the LINKAGES Project series titled *Facts for Feeding* at: [www.linkagesproject.org/pubs.html](http://www.linkagesproject.org/pubs.html)).

People with HIV/AIDS suffer from appetite loss (anorexia), eat less food and have difficulty eating and therefore failing to meet their dietary requirements. HIV/AIDS also affects how the body uses the foods that are consumed and these results in nutrient malabsorption. Fevers and the infections that accompany an HIV infection also lead to greater nutrient requirements and poor use of the nutrients by the body. In designing rations for HIV affected families, increase energy needs for adults by 10 to 15 percent and increase protein levels by 1.5 to 2 times normal requirements. Refer to the FANTA publication on "*Nutritional Care and Support for Persons Living with HIV/AIDS and other Affected Household Members*" at: [www.fantaproject.org](http://www.fantaproject.org).

In some countries, local organizations and/or national health authorities may have already established the nutritional allowance levels for supplementary feeding, and CSs will be required to conform.

**Micronutrients.** In the CRG, calculations for rations focus on energy, fat, and protein content. However, among target groups receiving Title II food aid, micronutrient deficiencies are likely to be a problem. In these cases, micronutrient fortified commodities should be considered. All processed food cereals under Title II programs, with the exception of rice, are fortified with B vitamins (thiamin, riboflavin, folic acid, and niacin), vitamin A, calcium, and iron. Blended cereals (corn-soy blend and wheat-soy blend) are further fortified with zinc, B12, pantothenic acid, iodine, magnesium, vitamin C, vitamin D, and vitamin E. Vegetable oil is fortified with vitamin A. If micronutrient deficiencies are known, the micronutrient contribution from blended cereals and fortified vegetable oil can be estimated from the values provided in the Commodity Fact Sheets found in Part One, Section II of the CRG. (HYPERLINK)

## 2. Income Transfer Value

If a program uses food mainly for its income transfer (monetary) value, the ration package's income transfer value is as important or more important than its nutritional content. Income transfer is the food's monetary value to the household. The income value of a ration is the market price for an equivalent quantity of the locally-available commodity that is most similar to the Title II commodity

plus the recipients' participation costs, such as lost wages and transportation. To determine the income transfer value needed for incentive programs, the following factors should be considered:

- ◆ What is the cost to the target population for participation in the program, i.e., transportation, daily lost wages, daily wage rate?
- ◆ What is the value of other incentives that are offered, i.e., training, health services?
- ◆ What is the value of the commodities to the participants?

Higher priced foods in the diet should also be examined, such as imported foods, high cost locally produced items, seasonally unavailable staples and important foods that cannot be obtained in adequate quantities because of income constraints. Commodities that replace highly valued and expensive food items, such as oil, may have a substantial income mediating effect, freeing up income typically used for purchasing these expensive items.

#### **STEP 4: RATION CALCULATION**

After calculating the nutritional value of a proposed ration package, the following should be determined: (1) the food commodities to be provided; (2) the total tonnage of commodities needed; and (3) the cost-effectiveness of the ration package selected. It is generally prudent to consider alternative rations in the initial planning stages in the event the desired commodities are not available or are delayed in transport, or when packaging requirements significantly alters the relative cost-effectiveness of ration package.

#### **Calculating the ration package**

For logistical and management reasons, programmers should try to limit ration packages to **no more than three commodities per ration** unless strong reasons exist. Because vegetable oil is an excellent source of energy, it should almost always be included in a ration. Other value-added commodity, such as all-purpose wheat flour, may be selected since local bakeries often prefer the higher quality imported American flour.<sup>3</sup> Bulk commodities are usually preferred for monetization, such as non-refined, bulk vegetable oil and wheat grain. Suggestions for how to select appropriate rations and calculate ration packages are provided in each module.

#### **1. Calculating the Total Amount of Food Commodities Needed**

Once the food commodities are chosen for the ration package the total amount of each commodity needed for the project can be calculated (usually in metric tons). To calculate the number of metric tons (MT) needed for each commodity use the following steps:

- Multiply the number of grams of the commodity per person per day times the total number of persons to receive the commodity.

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<sup>3</sup> Value-added commodities include fortified blended foods like Wheat Soy Blend (WSB), Corn Soy Blend (CSB), Vitamin A-fortified edible vegetable oil, and soy-fortified bulgur, wheat flour and sorghum grits. The PL 480 legislation requires that 75% of the commodities used be value-added, bagged and or processed commodities.

- Multiply the total number of grams of the commodity needed to feed the target group times the number of days the program will provide the ration package.
- Determine the number of metric tons of commodity needed by dividing the total number of grams per program period by 1,000,000 (number of grams in a metric ton).
- Complete the same calculation for each commodity (vegetable oil, cereal, cereal blend, or legume) that comprises the ration.

An examples provided in each program module.

### 3. Determining cost-effectiveness of the ration package

Cost is often not the primary factor for selecting the commodities. Food preferences, availability, potential disincentive effects, and urgent emergency requirements often outweigh cost considerations. However, the cost-effectiveness of the commodity, i.e., the ratio of its cost to its nutritive or income value, may help in determining whether it is appropriate for the food aid component of a development or emergency program. CSs should try to conduct the appropriate cost-effectiveness analysis.<sup>4</sup>

Calculating the cost-effectiveness of desired commodities in terms of cost per unit of nutritional value (one kilocalorie or one gram of protein) or income transfer value (in USD to the recipient) provides information about which commodities provide the most nutritional benefits or highest income at the lowest cost to the project. It is important to note that cost per calorie of fortified foods will always be higher than bulk grains, but in that fortified food are rich in micronutrients, they add key nutritional value to many program situations.

**Cost Effectiveness per Nutritional Value:** To determine the cost effectiveness value of a commodity per its nutritive value, calculate the cost in cents per one kilocalorie and one gram of protein of commodity using the following steps. The illustrative list of prices in Annex V and the nutritional values of commodities from the Commodity Fact Sheets are two helpful sources of information for use in making these calculations. The cost-effectiveness of a ration package per its nutritional value can be calculated in the following way.

#### a) Per Energy value:

- ❑ To calculate the cost of the commodity per 100 grams, divide the cost per metric ton (from Annex V) by 10,000 (a MT is equal to 10,000 units of 100 grams.)

Divide the cost per 100 grams of commodity by the number of kilocalories per 100 grams of commodity. This will give the dollar cost per one kilocalorie of commodity.

#### b) Per protein value:

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<sup>4</sup> Cost also refers to costs to the project associated with a commodity (such as CCC dollar values found in Annex V). In some projects, in-country transportation and storage costs and special handling costs may be critical, however, these costs may be similar for most commodities. For each project, first decide which of these cost elements are most relevant.

- To calculate the cost of a commodity per 100 grams, divide the cost per metric ton by 10,000. (10,000 x 100 g = 1 MT).
- Divide the cost per 100 grams of commodity by the number of grams of protein per 100 grams of commodity. This will give the dollar cost per one gram of protein provided by the commodity.

Box 1 below gives an example of how to calculate the cost effectiveness of both the caloric and protein nutritive values for CSB.

**BOX 1: EXAMPLE OF COST PER NUTRITIVE VALUE OF CORN-SOY BLEND (CSB)**

**Per caloric content of CSB:**

$$\text{\$260 per MT} \div 10,000 = \frac{\text{\$0.026 (per 100 g)}}{375.7 \text{ kcal (per 100 g)}} = \text{\$0.0000692 or 0.00692 cents per one kilocalorie}$$

Thus, the cost one kilocalorie of CSB is 0.007 cents (rounded)

**Per protein content of CSB:**

$$\text{\$260 per MT} \div 10,000 = \frac{\text{\$0.026 (per 100 g)}}{17.2 \text{ grams (per 100 g)}} = \text{\$0.0015 or 0.15 cents}$$

Thus, the cost of one gram of protein provided by CSB is 0.15 cents

This type of analysis would be used to compare different commodities that are suitable for meeting the same nutritional objectives in order to determine which ration package is most cost-effective. For example, the cost of one kilocalorie of corn-soy blend is 0.007 cents and one gram of protein costs 0.15 cents while the cost per one kilocalorie and one gram of protein of cornmeal is 0.005 cents and 0.23 cents, respectively. Cornmeal is a less expensive source of energy but not a cost-effective source of protein compared to the corn-soy blend, and CSB contains more micronutrients than the cornmeal. Decisions about cost-effectiveness of a commodity should be made in tandem with the objectives of the program. If the objective of the program is to improve nutritional status of a target group the corn-soy blend has a higher protein and micronutrient value than cornmeal. However, if the main objective is to provide energy to maintain nutritional status, the cornmeal may be the most cost-effective commodity in this case.<sup>5</sup> In all instances, it is desirable to consider not only how food aid commodities compare with one another, but also how their nutrition and income values compare with food that is locally available. This type of analysis is provided here for comparing the income value of food aid to the cost of providing it.

**Cost Effectiveness per Income Value:** A different type of analysis provides an indication of the efficiency of providing food aid, especially when CSs use food aid commodities to provide a given incentive or wage. The cost effectiveness per income value is determined by the value to the recipient compared to the cost of the program. For example, if a recipient receives a commodity that replaces one that would cost them \$0.30 at the local market price, this is considered a \$0.30 value to the family.

<sup>5</sup> The alternative package was calculated using the formula in Box 1 with the cost of cornmeal at \$194 per MT.

If providing the same commodity only costs the program \$0.23, the program would be considered cost effective. The more the local market value exceeds the cost to the program, the more cost effective the program. See Box 2 for an illustrative example of how to calculate the cost-effectiveness of income value.

### BOX 2 – EXAMPLE OF A COST EFFECTIVENESS CALCULATION

- 1) First, calculate the cost of one kg of flour to the household if purchased in the local market. Example uses the following (made up) figures:  
1 kg flour = \$0.40 cost to household for local market purchase.
- 2) Calculate the total program costs to provide one metric ton of flour. This includes the cost of the commodity plus transportation costs.  
 $\$228 \text{ (per MT)} + \$100 \text{ (transportation)*} = \$328$
- 3) Then, divide the total program costs to provide one metric ton of flour by 1,000 (there are 1,000 kilograms in a MT).  
 $\$328 \div 1,000 = \$0.328$  or 0.33 cents (rounded) cost to program to provide 1 kilo flour

Thus, for every \$0.33 in program costs, the program is providing \$0.40 value to the family. The ratio of local cost to program cost is  $\$0.40 \div \$0.33 = 1.2$ . The larger the ratio, the more cost effective the program.

*\*Transportation costs vary from situation to situation; a rule of thumb for development programs is to add 30-50% of the commodity for transportation costs.*

As indicated earlier, alternative rations should be developed during the initial planning stages so that if a specific commodity is not available or will be delayed in transport, the alternative commodity can be used. Also, changes in commodity availability, prices, and packaging can alter the relative cost effectiveness of ration packages. The large variety of Title II commodities available makes it possible to design a range of ration packages. The following should be taken into consideration when designing an alternative ration package:

- Select culturally acceptable and physiologically suitable foods for food aid recipients.
- Based on the cost per unit of nutritional and/or income transfer value, design rations that meet specifications using no more than three commodities per ration package. Also, use commodities that provide the maximum gain to recipients at lowest cost to the project.
- Compare the nutritional and/or income transfer values of currently used rations with specifications and key suitability criteria.
- Alter the ration packages according to how they will meet the above objectives.

### STEP 5: RANKING AND SELECTION

Naturally, cost plays a key role in the size and effectiveness of programs and cost calculations involve decisions about what cost elements to consider. At a minimum, the illustrative list of commodity prices in Annex V and current in-country transportation and storage costs can be used. Other factors to consider are:

- **Market disruptions:** The Bellmon determination must ensure that the local market is not disrupted. Market considerations in local areas where programs are targeted might also come into play. For example, it may be less disruptive to provide certain foods in the lean season rather than the harvest season. Guidance on conducting the Bellmon analysis may be found online at [www.usaid.gov/hum\\_response/ffp/bellmon.htm](http://www.usaid.gov/hum_response/ffp/bellmon.htm).
- **Logistics and management:** Some commodities may impose undue management or cost burdens due to unusual local conditions (e.g. transportation, storage, handling, pilferage) or unsuitable packaging, for the limited shelf life of the commodity.

The usual sources of data for considering potential market disruptions and logistical problems include past evaluations of similar programs, interviews with host governments and local and international PVO, as well as discussions with international organizations (such as the World Bank and the United Nations), USAID, USDA Agricultural Attaches and Economic/Commercial Officers at U.S. Embassies.

Proposed and alternative, ration packages can now be ranked by nutritional value, income transfer value, total cost, and other factors, such as potential market disruptions and logistical problems. They might also be ranked by cost. Decisions to change ration packages can be made less arbitrarily when alternative rations and their main attributes have been examined in advance.

## VI RESOURCE LIST

1. Food and Nutrition Technical Assistance (FANTA) Project, Academy for Educational Development, 1825 Connecticut Avenue, NW, Washington, D.C., 20009-5721. Tel: 202-884-8000; Fax 202-884-8432. E-mail: [fanta@aed.org](mailto:fanta@aed.org); Web site [www.fantaproject.org](http://www.fantaproject.org). FANTA has the following guides:
  - *Agricultural Productivity Indicators Measurement Guide*. Patrick Diskin
  - *Anthropometry Indicators Measurement Guide (Draft)*. Bruce Cogill
  - *Food For Education Indicator Guide (Draft)*. Joy Miller del Rosso and Gilles Bergeron
  - *Food Security Indicators and Framework for Use in the Monitoring and Evaluation of Food Aid Programs*. Frank Riely, Nancy Mock, Bruce Cogill, Laura Bailey, and Eric Kenefick
  - *Improving the Use of Food Rations In Title II Maternal/Child Health and Nutrition Programs (Draft)*. Serena Rajabiun, Beatrice Rogers, Margarita Safdie, Anne Swindale
  - *Infant and Child Feeding Indicators Measurement Guide*. Mary Lung'aho
  - *Measuring Household Food Consumption: A Technical Guide*. Anne Swindale and Punam Ohri-Vachaspati
  - *Nutritional Care and Support for Persons Living with HIV/AIDS and other Affected Household Members*. (forthcoming)
  - *Potential Uses of Food Aid to Support HIV/AIDS Mitigation Activities in Sub-Saharan Africa*.
  - *Sampling guide*. Robert Magnani
  - *Water and Sanitation Indicators Measurement Guide*. Patricia Billig, Diane Benahmane and Anne Swindale
2. Food Aid Management (FAM). 1625 K Street, NW, 5th Floor Washington, DC 20006. Tel: (202) 223-4860, Fax: (202) 223-4862; Web site [www.foodaid.org](http://www.foodaid.org). FAM provides USAID documents (FY 1990-ongoing).
3. Linkages Project. *Recommended Feeding and Dietary Practices to Improve Infant and Maternal Nutrition* also see *Facts for Feeding* (English, Spanish, French). Academy for Educational Development, 1825 Connecticut Avenue, NW, Washington, D.C., 20009-5721. Tel: 202-884-8000; Fax: 202-884-8977; E-mail: [linkages@aed.org](mailto:linkages@aed.org); Website: [www.linkagesproject.org](http://www.linkagesproject.org).
4. National Research Council. *Recommended Dietary Allowances*. National Academy Press, Washington, D.C., 1989.
5. USAID/BHR. *U.S. International Food Assistance Report 1999*. January 2000. Web site: [www.usaid.gov/hum\\_response/farpt1999](http://www.usaid.gov/hum_response/farpt1999).
6. USAID/BHR. *Commodities Reference Guide (CRG): Section I-4*. April 1999. Web site: [www.usaid.gov/hum\\_response/crg](http://www.usaid.gov/hum_response/crg).
7. USAID/BHR/FFP. *Monetization Field Manual P.L. 480 Title II Programs*. October 1998. Web site: [www.usaid.gov/hum\\_response/ffp/monetiz.htm](http://www.usaid.gov/hum_response/ffp/monetiz.htm).



8. USAID/BHR/FFP. *Title II Guidelines for Development Programs*. January 2000. Web site: [www.usaid.gov/hum\\_response/ffp/dappaa.htm](http://www.usaid.gov/hum_response/ffp/dappaa.htm).
9. USAID/BHR/FFP. *PVO Guidelines for Title II Emergency Food Proposals and Reporting (Draft)*. 1998 [www.usaid.gov/hum\\_response/ffp/emerg.htm](http://www.usaid.gov/hum_response/ffp/emerg.htm).
10. USAID/CDIE. *Performance Monitoring and Evaluation Tips*. 1996. Web site: [www.usaid.gov/pubs/usaaid\\_eval/#02](http://www.usaid.gov/pubs/usaaid_eval/#02).
11. WHO. *The Management of Nutrition in Major Emergencies*. Geneva, 2000.