FOOD AID FLOWS

– An analysis of food security in a food aid dependent population needs to take into account the overall performance of the food distribution system[1], in addition to the household-level questions as listed above.

– This analysis will look at the General Food Distribution and other significant food distributions targeting the *entire* population. This analysis will not include selective feeding programmes, such as distributions targeted to children under 5 years of age (e.g. bSFP or "blanket" for under-5) or to pregnant and lactating women.

– The analysis of the performance of the food aid system involves looking at the following three main components:

A: Analysis of the adequacy of the planned theoretical ration[2]

– The energy, micro- and macro-nutrient content of the theoretical general ration should be analysed using software such as NutVal[3] and compared to the standard recommended minimum intake, to determine the adequacy of the theoretical ration.

– The standard recommendations for *minimum* daily intakes are summarized in the table below:
   o Macronutrients include energy, lipids and proteins.
   o Micronutrients are minerals and vitamins.
   o For this analysis, only the following key micronutrients are analysed: iron, calcium, iodine, vitamin A and vitamin C. Refer to **Annex 1** for a list of additional micronutrients:

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[1] This analysis does not comprise cash-based interventions, even if these are used for food assistance purposes.

[2] "Theoretical ration" refers to the planned ration, which is the entitlement of the beneficiary.

[3] The software can be downloaded at http://www.nutval.net. If further assistance is required, please contact your regional adviser or headquarters.

TABLE 1 STANDARD RECOMMENDATIONS

Item	Standard recommendation (minimum daily intake)
Energy	2,100 Kcal
Lipids	40 gr (17% of total energy)
Proteins	53 gr (10% of total energy)
Iron	32 mg
Iodine	138 micro g
Calcium	989 mg
Vitamin A	550 micro g RAE
Vitamin C	41.6 mg

−   A full ration provided by the General Food Distribution should provide the recommended quantities of all nutrients. Refer to **Annex 1** for the comprehensive list of nutrients (Source: SPHERE).

−   To perform the analysis, follow the steps below:

   Step 1: Download NutVal from http://www.nutval.net.

   Step 2: Go to NutVal "Calculation sheet" (See **Annex 2** NutVal Calculation sheet)

   Step 3: Select the items that are included in the general ration and then input the planned daily ration in grams per person per day for each item.

   Step 4: The NutVal "Calculation sheet" automatically calculates the energy, micro and macronutrient contents of the ration and compares these to the recommended standards.

   Step 5: Add the following table to the final report, including a brief explanation as shown below:

Item	Standard recommendation	Provision by the ration
Energy	2,100 Kcal	*Fill in*
Lipids	40 gr (17% of total energy)	*Fill in*
Proteins	53 gr (10% of total energy)	*Fill in*
Iron	32 mg	*Fill in*
Iodine	138 micro g	*Fill in*
Calcium	989 mg	*Fill in*
Vitamin A	550 micro g RAE	*Fill in*
Vitamin C	41.6 mg	*Fill in*

Example of explanation: "As shown in the table above, the theoretical ration provides sufficient quantities of (*energy, lipids and/or proteins*) but is insufficient in (*energy, lipids and/or proteins).* In terms of micronutrients, the provision of (*XXX*) is below the recommendations."

− This analysis will enable the detection of any energy or nutrient deficiencies as compared to the standard requirements and will help in making suitable recommendations.

− If whole grain is distributed, it is quite common that food is lost in the milling process due to milling or dehulling, or due to payments for milling which are often done "in-kind" from the milled commodity. If whole grain is given, 15% should be deducted from the cereal amount when calculating the value. UNHCR/WFP usually calculate a 10-30% loss to cover both the milling losses and the costs associated with milling. Whatever calculations are used, this should be explained in the text.

− Note that it may be justified to distribute a partial food ration that provides, for example, only 1,050 Kcal and hence covers only 50% of the energy requirements in cases where refugees have access to other sources of food. If this is the case, this should be clearly noted in the report.

− If there are additional distributions covering significant parts of the surveyed population, e.g. ad hoc food distributions which commonly take place e.g. during the Ramadan, these should be included in the analysis during the actual month they are distributed. If a small additional item is given that does not cover 30 days of food for the entire population (such as one can of pineapple), then this does not need to be included. As already mentioned, distributions done as part of selective feeding programmes such as a Blanket SFP for under-5s should not be included in this analysis.

B: Analysis of actual food aid flows during the past year as compared to the planned theoretical ration

− Food actually distributed during the year preceding the survey should be examined, in order to determine how much of the planned ration was actually distributed during each distribution cycle. Such an analysis is particularly important if the General Food Ration is designed to cover the entire food needs of the targeted population.

− This analysis follows the same steps as listed under section A above for each distribution cycle, using the actual quantities distributed.

− See the spreadsheet showing the step by step process with a simplified case study on how to perform the analysis using Excel and NutVal; see SENS Food Security tool: [**Tool 02** - Analysis of Food Aid Flow Graphs].

– To perform the analysis, follow the steps below:

Step 1: For each distribution round, find out the actual final quantity of each food item that was distributed in tons (1 tonne = 1000 kilograms). The data will be available in distribution reports from WFP or the implementing partner. Do not use the planning figures as pipeline breaks may have occurred during a cycle. It is therefore important to get the data from the final distribution reports which state the actual quantities of food distributed to beneficiaries.

Step 2: Divide the numbers found in Step 1 with the number of final beneficiaries that received the ration, in order to establish the real quantity of each food item that was received per person that cycle. Note that the final beneficiary figures fluctuate between cycles and that this figure is the *actual* number of beneficiaries who received the ration rather than the *theoretical planned* number of beneficiaries that appear in the manifest. The final beneficiary figures are included in the distribution reports from WFP or the implementing partner.

Step 3: Divide the amount found in Step 2 with the number of days the distribution cycle was supposed to last (e.g. 30 for a monthly food distribution), in order to establish the actual daily ration per item, per person per day. Convert this into grams (1 kg = 1000 grams).

Step 4: Input the daily amounts of each food item received per distribution cycle found in Step 3 into NutVal in grams per person per day, to determine the energy, macro and micronutrient content of the ration (repeat steps 1-4 listed under section A above).

Step 5: Compare the numbers found in Step 4 to the standards, in order to determine any gaps in the provision of energy, macro and micronutrients as compared to the standards. Note that it is not possible to define when a gap is significant without having an understanding of the context. For example, a gap in the provision of food aid cereal during the harvest period in a refugee population who has access to land and harvests is less important than the same gap in a refugee population who does not have access to land and/or who has recently arrived. In the latter situation, refugees are likely to have no or less means to cope with the reduction of the ration.

Step 6: Make a trend graph in Excel, to highlight trends in food provision during the past 12 months. See two examples below. Such graphs will highlight any gaps in the provision of food, which may help to explain differences in the prevalence of malnutrition as well as in the HDDS and the use of negative coping strategies as compared to the last nutrition survey results.

Things to note:

- If the theoretical ration is a full ration and covers 100% of the needs, the trend graph should compare the provision of energy and selected macro and micronutrient with the minimum standards.

- Provide a brief explanation of the trends shown in the graph. Comments are particularly important to explain any gaps and important variations between distribution cycles.

FIGURE 1 EXAMPLE 1- TRENDS IN ENERGY AND SELECTED MICRONUTRIENTS PROVIDED IN GENERAL FOOD RATION AS COMPARED TO MINIMUM STANDARD
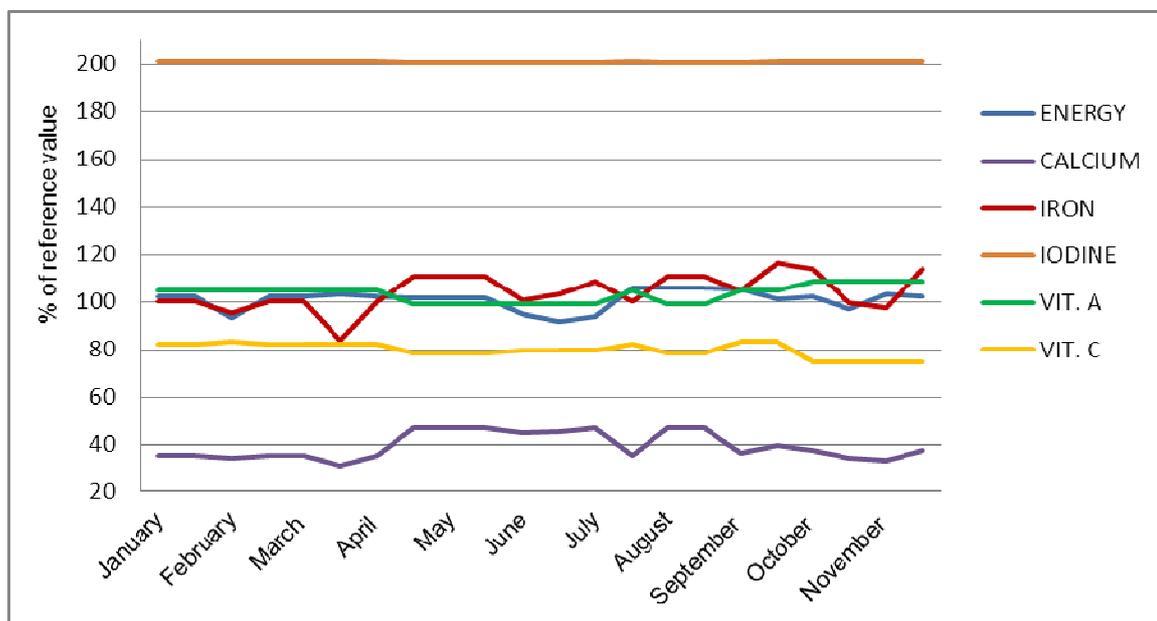
FIGURE 2 EXAMPLE 2- TRENDS IN ENERGY, PROTEIN AND LIPIDS PROVIDED IN THE GENERAL RATION DURING ONE YEAR, AS COMPARED TO MINIMUM STANDARDS
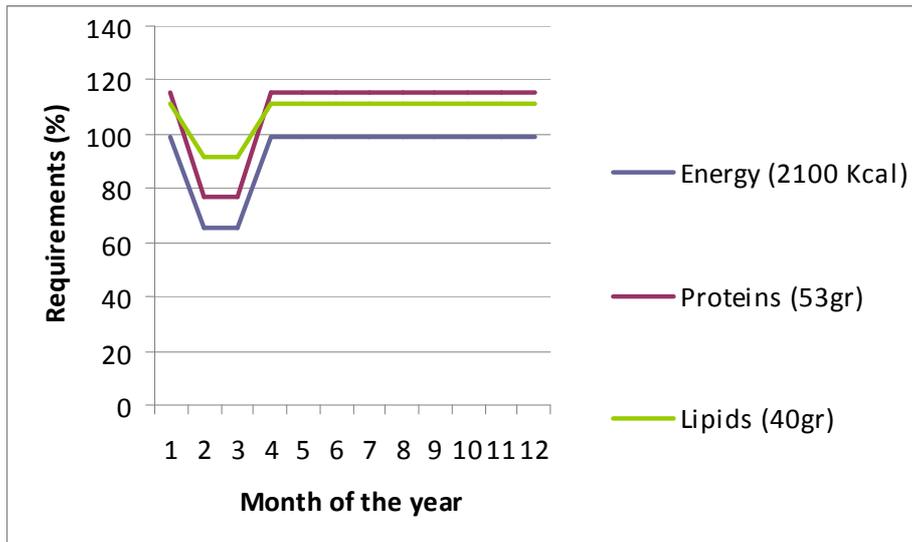
C: Reviewing the key findings of Food Basket Monitoring and Post Distribution Monitoring

- If food basket monitoring or FBM (also called On-Site Distribution Monitoring) and Post Distribution Monitoring (PDM) data is available, further review can be made on the quantities of foods actually *received* by the beneficiaries and their use. This is distinct from what was described above which looked at the amounts *distributed*.
  - o If, for example, the FBM data shows that average cereal distribution was consistently distributed below the planned weight, it is likely that the energy content of the ration was somewhat lower than what was shown by the graph above. Problems in the distribution system should be reported so that action can be taken to improve the efficiency and equity of the system and recommendations made in the final nutrition survey report.
  - o PDM may show that significant quantities of the distributed cereal are sold or exchanged for another preferred cereal with unfavourable terms of trade (e.g. 2 kg maize grain is exchanged for 0.5 kg rice). This suggests that beneficiaries loose in the exchange in terms of energy.

- If FBM and PDM data are not available, it is recommended to organize key informant interviews with staff from agencies involved in food security in the refugee setting, to gain a more in-depth understanding of potential issues.

ANNEXES

ANNEX 1 MINIMUM NUTRITIONAL REQUIREMENTS
(SOURCE: HUMANITARIAN CHARTER AND MINIMUM STANDARDS IN HUMANITARIAN RESPONSE, SPHERE PROJECT 2011)

Nutrient	Minimum population requirements[1]
Energy	2,100 kcals
Protein	53 g (10% of total energy)
Fat	40 g (17% of total energy)
Vitamin A	550 µg RAE*
Vitamin D	6.1 µg
Vitamin E	8.0 mg alpha-TE*
Vitamin K	48.2 µg
Vitamin B1 (Thiamin)	1.1 mg
Vitamin B2 (Riboflavin)	1.1 mg
Vitamin B3 (Niacin)	13.8 mg NE
Vitamin B6 (Pyidoxine)	1.2 mg
Vitamin B12 (Cobalamin)	2.2 µg
Folate	363 µg DFE*
Pantothenate	4.6 mg
Vitamin C	41.6 mg
Iron	32 mg
Iodine	138 µg
Zinc	12.4 mg
Copper	1.1 mg
Selenium	27.6 µg
Calcium	989 mg
Magnesium	201 mg

* Alpha-TE - alpha-tocopherol equivalents
  RAE - retinol activity equivalents
  DFE - dietary folate equivalents
1   Expressed as reference nutrient intakes (RNI) for all nutrients except energy and copper.

Reference: RNI from FAO/WHO (2004), Vitamin and Mineral Requirements in Human Nutrition. Second edition, were used for all vitamin and mineral requirement calculations except copper, as requirements for this mineral were not included in FAO/WHO (2004). Requirements for copper are taken from WHO (1996), Trace Elements in Human Nutrition and Health.

ANNEX 1 MINIMUM NUTRITIONAL REQUIREMENTS
(SOURCE: HUMANITARIAN CHARTER AND MINIMUM STANDARDS IN HUMANITARIAN RESPONSE, SPHERE PROJECT 2011)

ANNEX 2 NUTVAL CALCULATION SHEET

NutVal 3.0 **Food Aid Planning and Calculation Sheet**

Home

Help

Food and Nutrient Database

RATION CONTENTS Click below to select food items or type them in on the bottom two rows	DAILY RATION g/person/day	ENERGY kcal	PROTEIN g	FAT g	CALCIUM mg	IRON mg	IODINE µg	VIT. A µg RE	THIAMINE mg	RIBOFLAVIN mg	NIACIN mg	VIT. C mg
MAIZE GRAIN, WHITE	400	1,400	40.0	16.0	28	10.8	0	0	1.54	0.80	8.8	0
BEANS, DRIED	80	268	16.0	1.0	114	6.6	0	0	0.40	0.18	5.0	0
OIL, VEGETABLE [WFP SPECS.]	25	221	0.0	25.0	0	0.0	0	225	0.00	0.00	0.0	0
CSB SUPERCEREAL (CSB+) [WFP SPECS.]	60	225	9.2	4.8	238	5.6	24	333	0.35	0.43	6.6	61
SALT, IODISED [WFP SPECS.]	5	0	0.0	0.0	0	0.0	300	0	0.00	0.00	0.0	0
Ration total	570	2,115	65.2	46.8	380	23.0	324	558	2.29	1.41	20.4	61
Beneficiaries Whole Population		2,100	52.5	40.0	450	22	150	500	0.90	1.40	13.9	28
% of requirements supplied by ration ?		101%	124%	117%	85%	105%	216%	112%	255%	100%	147%	216%
% of energy supplied by protein or fat ?			12.3%	19.9%								

Ration Name or Reference: Ration 1 - Location A   Date: 01/03/2012

View Graph of Nutrients	View Pie Chart of Energy	Add Data to Tracking Sheet	View Tracking Sheet	Export Data to Save or Print
Ration Examples:	*Maize-Based*	*Rice-Based*	*Wheat-Based*	*Clear Ration Contents*