3.2 Sphere and Food Aid & Food Security

Trainer's Note

Session at a Glance:

	Content	Activity	Time
1	Introduction	Brief Oral Presentation	5 minutes
2	Review of Sphere standards and indicators	OH presentation with facilitated plenary discussion	15 minutes
3	Ration Calculation Exercise	Ration design exercise	35 minutes
4	Logistics math for food aid programmes	Individual calculation exercise in steps with plenary review	30 minutes
5	Conclusions	Brief Oral summary of main points	5 minutes
			Total Session Time: 90 minutes

Required Materials: 3.2 OH set, well-marked Sphere book (chapter 3), flipcharts, calculators for quick exercises, prepared nutritional values chart and tables for basic logistics planning, and the Sphere - based spreadsheet for calculating ration commodities and food tonnage (attached to this trainers note and the Excel file "The Sphere - Based Ration Calculator.xls").

Trainer's Notes:

1. Introduction

This session, like the other "Sphere and…" sessions, is intended to make participants open, read, understand, and work with the Sphere Standards and Indicators for this chapter. It is useful at this point to remind the participants that although this is a very useful tool, it is still far from perfect. The food security standards are useful, but are treated in this session design rather quickly, with more emphasis on food aid. If you wish to change the focus more to the food security aspect, you should drop either the ration calculation or the food logistics exercise to make enough time available.

Food security, in particular, is a huge field with numerous difficulties and interpretations. It is important to note that the Food chapter of the 2004 edition of the Sphere standards is rather "light" in comparison to the other chapters as well as to the topic of food aid itself. Nevertheless, the document does provide some useful advice and information on this topic. One way to encourage closer reading of the text and better understanding of its uses and limitations is to challenge the readers to find and shortcomings, and or points that they find confusing or difficult to understand. It is important that the facilitator is well prepared to note areas of interest and critical concern relating to this topic, but which are not adequately addressed in Sphere.

The prepared OHs describe the structure of this Sphere chapter and explain where the standards are found for the three components of the overall Food chapter: Nutrition, Food Aid, & Food Security. Since the Nutrition components were already covered in the previous sessions, this session focuses on Food Aid and Food Security only.

2. Review of Sphere Standards and Indicators

This part of the session is designed to "walk the participants through" each of the standards as well as the key indicators in this sector. It is sometimes useful to have different participants read them out and then recompose them in their own words to ensure that they are clear and that the whole group understands the main points of each standard. In every case, challenge the group to "test" the standard to see whether or not they agree that they are in fact, universal in nature and globally applicable. In many cases there is explanatory material provided to better explain some of the reasoning behind the indicators used.

The Food Security standards are treated first in the session. Keep this part of the session moving quickly. Explain that in this presentation more emphasis will be given to food aid than to food security, but that this doesn't mean that one aspect if more important than the other. In fact, in global terms food security is probably much more important than food aid, but the Sphere handbook materials simply provide more "pragmatic" guidance on the area of food aid - perhaps because there is more general agreement on approaches to this than to food security?

Remember that this session is designed to provide a basic understanding of food aid issues to non-specialists, not a professional training for ration designers or logisticians. As such, providing a general understanding is good enough for our purposes.

3. Ration Calculation Exercise

Take the participants through this exercise step by step. At each step, indicate graphically how much each portion weighs, how big it is, what each means in practical day to day terms of carrying and moving these items. Use the Excel spreadsheet provided to demonstrate the result of changing values in a simple ration on screen. The way the presentation is structured, you will need to escape from the "show" mode in PowerPoint and double click in the cells you want to change to bring up the active Excel file.

4. Logistics Math for Food Aid Programs

The point of this part of the session is to make the indicators "come alive" for the participants. It should be very graphic. This presentation follows the structure of the chapter. Although the information is not particularly difficult, there is math involved, and this often frightens some and puts off other participants. It will be very useful to have several pocket calculators on hand for participants to works out the calculations involved in designing a basic food basket, converting this to tons required for a larger population, and ultimately converting this need to numbers of trucks needed to deliver the food required.

5. Conclusions

Review any questions or problems participants may have found in the chapter. Remind the group that the intent of the session is primarily to familiarize non-specialists with the basics (and basic terminology) of logistics, food aid, and distribution systems.

APPROXIMATE NUTRITIONAL VALUES OF VARIOUS FOOD COMMODITIES PER 100 GRAMS

COMMODITY	ENERGY (kcal)	PROTEIN (g)	FAT (g)	Price per MT in $ USD
CEREALS				
Wheat	330	12.3	1.5	165
Rice	360	7.0	0.5	280
Sorghum/Millet	335	11.0	3.0	200
Maize	350	10.0	4.0	170
PROCESSED CEREALS				
Maize meal	360	9.0	3.5	225
Wheat flour	350	11.5	1.5	240
Bulgur wheat	350	11.0	1.5	220
BLENDED FOODS				
Corn soya blend	380	18.0	6.0	320
Wheat soya blend	370	20.0	6.0	390
Soy fortified bulgur wheat	350	17.0	1.5	240
Soy fortified maize meal	390	13.0	1.5	270
Soy fortified wheat flour	360	16.0	1.3	240
Soy fortified sorghum grits	360	16.0	1.0	190
DAIRY PRODUCTS				
Dried skim milk (enriched)	360	36.0	1.0	1,900
Dried skim milk (plain)	360	36.0	1.0	1,800
Dried whole milk	500	25.0	27.0	2,200
Canned cheese	355	22.5	28.0	1,850
MEAT AND FISH				
Canned meat	220	21.0	15.0	1,950
Dried salted fish	270	47.0	7.5	1,500
Canned fish	305	22.0	24.0	2,000
OILS AND FATS				
Vegetable oil	885	0	100	750
Butter oil	860	0	98.0	2,300
Edible fat	900	0	100	950
PULSES				
Beans	335	20.0	1.2	440
Peas	335	22.0	1.4	375
Lentils	340	20.0	0.6	500
MISCELLANEOUS				
Sugar	400	0	0	350
High energy biscuits	450	12.0	15.0	1,250
Black tea	0	0	0	1,235
Iodized salt	0	0	0	150
Dates	245	2.0	0.5	1,900
Dried fruit	270	4.0	0.5	1,200

Note: prices quoted are free-on-board (FOB) and do not include transportation costs. Prices were compared in 1998 and will vary over time. Updated information may be found from WFP.

Table is from UNHCR Handbook for Emergencies, 2nd Edition, page 203.

Examples of adequate full rations for the affected population entirely reliant on food assistance

(From WFP/UNHCR Guidelines for estimating food and nutritional needs. December 1997)

ITEMS	RATIONS (quantities in grams per person per day)				
	Type 1*	**Type 2***	**Type 3***	**Type 4****	**Type 5***
Cereal	400	420	350	420	450
Pulses	60	50	100	60	50
Oil (vitamin A fortified)	25	25	25	30	25
Canned fish/meat	-	20	-	30	-
Fortified blended foods	50	40	50	-	-
Sugar	15	-	20	20	20
Iodized salt	5	5	5	5	5
Fresh veg./fruit	-	-	-	-	100
Spices	-	-	-	-	5
Energy: Kilo calories	**2113**	**2106**	**2087**	**2092**	**2116**
Protein (in grams and % of total kcal)	58g, 11%	60g, 11%	72g, 14%	45g, 9%	51g, 10%
Fat (in grams and % of total kcal)	43g, 18%	47g, 20%	43g, 18%	38g, 16%	41g, 17%

* *For rations 1,2,3 & 5 the cereal used for the calculation is maize meal*

** *This ration has rice as a cereal; the low percentage energy for protein is acceptable due to its high quality; the slightly low fat content is in line with food habits in rice -eating countries.*

Source: UNHCR Handbook for Emergencies, 2nd Edition - page 205

Some Commodity Distribution Guidelines

Item	Distribution Interval	Comments
Cereal Beans	10 days 10 days	Always distribute cereal and beans at the same time to maximize their nutritional value.
Oil Sugar Salt	Monthly Monthly Monthly	If adequate storage containers are available.
Vegetables/Fruits	1-10 days	Depending on variety.
Canned meat/fish	Monthly	If containers are small (less than 120g).
Cereal blend	10 days	To avoid loss of nutrient in storage.

From UNHCR EMTP training materials, original citation is missing (sorry!)

Three Combinations of Ration Packages

(From USAID Commodities Reference Guide,
See: http://www.usaid.gov/hum_response/crg/module5.html#step4

Selection 1- Ration Package with Fewer Pulses

Amount	Commodity	Protein (g)	Fat (g)	Energy (kcal)
30 g	Fortified oil	0	30	270
100g	Blended food	17	7	376
350g	Cereal flour or Rice[1]	30-35	3.5-6	1,260
60g	Pulse	13	<1g	204
Total		60-65	41-44[2]	2,100

Selection 2- Ration Package with Cereal and Legumes

Amount	Commodity	Protein (g)	Fat (g)	Energy (kcal)
35 g	Fortified oil	0	35	315
100g	Blended food	17	7	376
300g	Cereal flour or Rice[1]	25-30	3-5	1,080
100g	Pulse	22	<1g	340
Total		64-69	46-48[2]	2,111

Selection 3- Ration Package with No Blended Foods

Amount	Commodity	Protein (g)	Fat (g)	Energy (kcal)
40 g	Fortified oil	0	40	360
400g	Fortified cereal flour[3]	35-40	4-7	1,440
90g	Pulse	20	<1g	306
Total		55-65	44-47[2]	2,106

1. If an unmilled cereal other than rice is used, then 10% more should be included to account for difference in energy and another 10% for costs/losses during milling.
2. 1g fat = 9 kilocalories
3. Without the blended food to supply micronutrients, only a fortified milled flour should be used.

APPROXIMATE COMMODITY VOLUME PER TONNE

COMMODITY	APPROXIMATE VOLUME PER TONNE (m^3 /1,000kg)
WATER	1 (exactly)
BAGGED DRY FOOD CEREALS/PULSES	2
BAGGED FLOUR/BLENDED FOODS	2
DSM IN BAGS	2.4
DSM IN TINS INSIDE CARTONS	4
EDIBLE OIL IN TINS INSIDE CARTONS	2
OIL IN DRUMS	1.4

Adapted from UNHCR Handbook for Emergencies, 2nd Edition, page 374

CARRYING CAPACITIES OF VARIOUS VEHICLES

TRANSPORT CHOICE	VOLUME (m^3)	WEIGHT (kg)
Standard railway car	52	30,000
20 ft. sea/land shipping container	30	18,000
40 ft. sea/land shipping container	65	26,000
Large lorry and trailer	varies	20 - 30,000
Large articulated lorry	varies	30 - 40,000
Medium lorry	varies	5 - 8,000
Typical water tanker	8	8,000
Hand drawn cart	varies	300
Camel	varies	250
Donkey	varies	100
Bicycle	varies	100

Adapted from UNHCR Handbook for Emergencies, 2nd Edition, page 375