

2.4 Sphere and Nutrition

Trainer's Note

Session at a Glance:

Content	Activity	Time
1 Introduction	Brief Oral Presentation	5 minutes
2 Review of Sphere standards & indicators	OH presentation with facilitated plenary discussion and ration design exercise	50 minutes
3 Visualizing the indicators	OH presentation	30 minutes
4 Conclusions	Brief Oral summary of main points	5 minutes
Total Session Time: 90 minutes		

Required Materials: 2.4 OH set, well-marked Sphere book (chapter 2), flipcharts, calculators for quick exercises, example foods for "standard ration", dry rice (or corn), oil, beans or other pulses, sugar, corn meal (to represent corn-soy blend), prepared nutritional values chart (attached to this trainers note)

Trainer's Notes:

1. Introduction – 5 minutes

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. One way to encourage closer reading of the text and better understanding of its uses and limitations is to challenge the readers to find errors, and or points that they find confusing or difficult to understand.

2. Review of Sphere Standards & Indicators – 50 minutes

This part of the session is designed to "walk the participants through" each of the standards 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. **Remember that this session is designed to provide a basic understanding of nutritional issues to non-nutritionists, not a professional training for nutritionists.** As such, providing a general understanding is good enough.

This presentation is very dense. There is a lot of information to cover, particularly if the group does not already have a basic understanding of nutrition, nutrition surveys, and the basic indices used to measure malnutrition in large populations. It is important to prepare very carefully for this session, and whenever possible to present the material with a professional nutritionist. It will be very useful to have several pocket calculators on hand for participants to work out the calculations involved in designing a basic food basket.

3. Visualizing the Indicators – 30 minutes

The point of this part of the session is to make the indicators “come alive” for the participants. It should be very graphic. If you can prepare a facsimile of a basic ration with actual food items, it is a very good illustration of what 2100 kcal actually is. It takes some time to find a weigh out the sample items so do this well before the session. Use the questions in the presentation to get active participation from the group.

4. Conclusions – 5 minutes

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-nutritionists with the basics (and basic terminology) of this field.

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
<i>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.</i>				

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: Kilocalories	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	10 days	Always distribute cereal and beans at the same time to maximize their nutritional value.
Beans	10 days	
Oil	Monthly	If adequate storage containers are available.
Sugar	Monthly	
Salt	Monthly	
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