

WFP



UNHCR

WFP / UNHCR GUIDELINES

FOR ESTIMATING

FOOD AND NUTRITIONAL NEEDS

IN EMERGENCIES



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BACKGROUND

1. Until now WFP and UNHCR have used a reference value of 1,900 kilocalories per person per day for designing emergency rations. This planning figure, which was endorsed by the 1988 Conference "Nutrition in Times of Disaster", is based on the needs of a "typical" sedentary population with a normal demographic distribution and an assumed physical activity level of 45 percent above the Basal Metabolic Rate (BMR).
2. Recent research has indicated that an assumed physical activity level of 45 percent above BMR is too low for populations in emergency situations, particularly for women, and that adjustments should also be made for increased proportions of pregnant women and nursing mothers and for other conditions.
3. The Committee on International Nutrition (CIN) published a report in 1995 at the request of United States Agency for International Development (USAID), which estimated mean per capita energy requirements in emergency situations to range between 1,900 and 2,500 kilocalories. It recommended that an average figure of 2,100 kilocalories be used for planning purposes. This would cover the energy needs of a "typical" population, assuming standard population distribution, body size, ambient temperature, pre-emergency nutritional status and a light physical activity level of 55 percent above BMR for males and 56 percent for females.
4. In the new WHO manual "Management of nutrition in major emergencies" (in press) the mean energy requirement in emergency situations has been estimated globally at 2,100 kilocalories; this is consistent with the CIN report (Annex I).
5. In implementing the revised MOU (March 1997), WFP and UNHCR will follow the WHO Guidelines and use 2,100 kilocalories as the initial reference value for calculating energy requirements and designing food aid rations for the affected populations in emergency situations. However, this initial planning figure needs to be readjusted at the earliest opportunity through an in-depth assessment of the situation, and the ration revised according to prevailing conditions.

BASIC PRINCIPLES

6. Ensuring an adequate basic ration for the affected population is of utmost importance at the onset of an emergency. The availability of such a ration will reduce the need for other costly and cumbersome food interventions.
7. An adequate ration is generally defined as meeting the population's minimum energy, protein, fat and micronutrient requirements for light physical activity, and as being nutritionally balanced, diversified, culturally acceptable, fit for human consumption, and easily digestible for children and other affected vulnerable groups.
8. Individual energy needs are determined mainly by the BMR which is estimated for different population groups according to age, gender, weight and in the case of women reproductive age, physiological state (i.e. whether pregnant or nursing), and the Physical Activity Level (PAL).

9. The total energy needs of a population are determined by adding up the requirements for each age-sex group according to the proportion within the population. The overall demographic profile in a country (of origin) may be used as a first approximation, but should subsequently be adjusted according to census data on the refugee/internally displaced person (IDP) population.

10. When the population is entirely dependant on food assistance, the external provision of food must cover at least its minimum requirements as shown in Annex I. In some cases, however, the affected population may not be dependent on food assistance alone but has or can obtain access to some other sources of food.

11. Food rations should complement any food which the affected population is able to obtain on its own, through activities such as agricultural production, trade, labour and small business. An understanding of the various mechanisms used by the population to have access to food is essential and enables a better estimation of food and nutritional needs.

12. As a principle in the general distribution one standard ration will be provided to every beneficiary without distinction.

13. In all cases, the food and nutrition situation of the refugees/displaced persons should be systematically reviewed at least every 12 months.

NEED FOR AN INITIAL REFERENCE VALUE FOR EMERGENCY FEEDING

14. It is essential to establish a system that allows rapid planning and response to the food and nutritional requirements of the affected population. An in-depth assessment is often not possible in the early days of an emergency and the necessary information is usually available only once the emergency situation has stabilised.

15. Therefore, in the first stages of an emergency situation, the average estimated per capita energy requirement of **2,100 kilocalories** will be used to expedite decisions about the immediate initial provision of food. As soon as some demographic and food security information can be collected, the calculation for the amount of food aid required should be adjusted accordingly.

16. In situations where it is evident from the start of an emergency that the food requirement will be different from the initial reference value of 2,100 kilocalories, there is flexibility to adopt a more appropriate figure for planning the food requirement; for instance, reduced requirements can be expected for situations in which access to food or income has been maintained. Larger requirements can be expected when the environmental temperature is considerably below the reference temperature of 20°C without adequate protection for the population (provision of shelter and clothing), or when the activity level is more than light (see Annex II).

ADJUSTMENT OF INITIAL REFERENCE VALUE

17. The initial reference value of 2,100 kilocalories is applicable in the early stage of an emergency when no other food is available and when only the number of affected persons is known. When demographic information has been collected and the degree of access of the population to food from other sources is known, the initial reference value of 2,100 kilocalories must be adjusted to reflect the actual energy, protein and micronutrient requirements to be met through external food aid.

18. The calculation of the real food and nutritional needs of a population is extremely important and should be made by staff experienced in nutrition as soon as possible after the

emergency occurs taking into account the different factors that influence the average daily nutritional needs.

FACTORS TO TAKE INTO CONSIDERATION WHEN ESTABLISHING RATION LEVELS

Demographic characteristics (age and gender composition)

19. The composition of the beneficiary population will affect the nutritional requirements. For example a population composed exclusively of women and children will require about 6 percent less energy than a standard population under consideration (in a country).

Activity level

20. The PAL values for different levels of activity are given in the FAO/WHO/UNU report published in 1985. The current ration level of 2,100 kilocalories is based on a light PAL of 1.55 x BMR for men and 1.56 x BMR for women. This level will maintain the health and nutritional status of an individual engaged in light work. An increase in ration should be considered when the workload exceeds the light level. In this connection, attention should be paid to workloads by gender (see Annex II).

Environmental temperature

21. It is current convention to take the average temperature of 20°C as a base temperature and to add an allowance of 100 kilocalories for every five degrees below 20°C (see Annex II).

Health, nutritional and physiological status

22. The affected population may have suffered considerable nutritional stress and severe prolonged food shortage before assistance was provided. Other risk factors include micronutrient deficiencies prevalent in the place of origin, or a widespread epidemic threatening the population. These risk factors may call for a revision of the ration level. When there is widespread illness and/or when malnutrition and crude mortality rates are high, supplementary and therapeutic feeding programmes may be implemented. However, these programmes will be effective only if an adequate general ration is also being distributed.

Household food security

23. Requirement for external food aid is determined by the degree of access to local food. This in turn is influenced by the availability of local food on the one hand, (e.g. in the market or from own production) and the purchasing power and opportunities allowed to the affected population on the other hand (e.g. for direct purchase from local sources or for the purchase of seeds etc. where food production is possible and allowed). The extent to which such inputs from the population are sustainable or reflect the erosion of assets that the population had initially, must be assessed.

MANAGEMENT CONSIDERATIONS

Food habits

24. The staple food should be culturally acceptable. The target population should have the knowledge and the means to process and prepare it, using available facilities and fuel supplies. Emergency situations are not a suitable time to introduce a new type of food.

Food processing

25. For practical, nutritional and environmental reasons, it is preferable to provide flour particularly in the early stages of emergency. If whole grains need to be provided, local milling capacity must be available, and the ration should include compensation for milling cost and losses (subject to local milling charges, in the range of 10 to 20%), if these are borne by the beneficiaries.

Non food requirements

26. The availability of adequate supplies of essential non-food items such as water, cooking facilities and fuel and containers must be ensured. The provision of shelter and blankets is also essential.

Quality control and specifications

27. A system of quality control for all commodities must be implemented to ensure that food distributed to refugees is of good quality, safe for human consumption and that it meets the required specifications. Oil and dried skimmed milk should be fortified with Vitamin A and blended food should follow the international specifications established by FAO/WHO for vitamin and mineral fortification (the Codex Alimentarius).

Substitution of commodities

28. When certain food commodities are not available, they can be replaced by other available food items in order to maintain the adequate energy and protein level of the food basket. However the substitution should not occur for more than one month. The temporary substitution ratios for common food items are :

| | | |
|--------------------------------------|---|-------|
| Blended food and Beans | = | 1 : 1 |
| Sugar and Oil | = | 2 : 1 |
| Cereal and Beans | = | 2 : 1 |
| Cereal for Oil (not: Oil for Cereal) | = | 3 : 1 |

The food basket

For an initial emergency period and/or population entirely dependent on external food aid

29. Priority must be given to assuring adequate nutritional energy during the first period following an emergency event. A complete food basket should be mobilised and distributed as soon as possible, to ensure provision of adequate amounts of energy, protein, and fat. Essential micronutrients should also be provided in order to safeguard adequate micronutrient levels.

Total recommended energy

30. The minimum ration should aim at providing 2,100 kilocalories per person per day.

Recommended protein as percentage of total energy

31. In line with WHO technical reports, protein should provide at least 10-12 percent of the total energy. When energy needs are being met through a range of commodities with an ample protein content (cereal, blended food, pulses), the protein content of the ration is usually not an issue.

Recommend fat as percentage of total energy

32. At least 17 percent of the energy provided by the ration should be from fat. Present scientific information does not justify intakes in excess of 20 percent (FAO/WHO consultation on Fats and Oils in Human Nutrition, 1993).

Recommended micronutrient intakes

33. People dependent solely on external basic emergency rations are at risk of developing micronutrient deficiencies. Access to local fresh food and vegetables is important as this could provide necessary micronutrients in more appropriate form than through blended food and supplements.

In deciding the adequacy of the micronutrient intake, the ration and additional food sources must be taken into account. If the level is found to be inadequate one of the options below should be considered. Annex IV states the safe intake levels of vitamins and minerals. Ways to ensure an adequate supply of micronutrients include, in preferred order:

- Promoting the production of vegetables and fruit
- Providing fresh food items
- Adding to the ration a food rich in a particular vitamin or mineral
- Providing fortified food (blended food)
- Distributing nutrient supplements

Example of Adequate Full Rations for the affected population entirely reliant on food assistance

| ITEMS | RATIONS (quantity in g) | | | | |
|------------------------------|----------------------------|----------|----------|----------|----------|
| | Type 1* | Type 2* | Type 3* | Type 4** | Type 5* |
| Cereal flour/rice/bulgur | 400 | 420 | 350 | 420 | 450 |
| Pulses | 60 | 50 | 100 | 60 | 50 |
| Oil (vit. 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./fruits | - | - | - | - | 100 |
| Spices | - | - | - | - | 5 |
| Energy: kilocalories | 2113 | 2 106 | 2 087 | 2 092 | 2 116 |
| Protein (in g and in % kcal) | 58g; 11% | 60g; 11% | 72g; 14% | 45g; 9% | 51g; 10% |
| Fat (in g and in % 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

34. Five types of rations are shown to illustrate differences due to such factors as the food habits of the population, the acceptability and the availability of the commodities in the region. In Annex III the composition of commonly used food aid commodities is presented.

35. Fresh foods, spices, tea, yeast, etc., should also be made available to the population, wherever possible, as an additional source of micronutrients, and in order to increase palatability and acceptability of prepared foods, enabling the beneficiaries to prepare meals in as familiar a manner as possible.

For post-emergency situations and/or populations having access to other sources of food

36. In some situations, the ration need only be complementary to what the beneficiaries are getting from other sources. The affected population may have some freedom of movement allowing it to engage in productive activities and develop some coping mechanisms which contribute to covering part of its needs. Settlements may also be situated in areas offering greater opportunities for self-reliance.

37. For populations not entirely reliant on food assistance, partial rations are provided to ensure coverage of the minimum energy requirement. Depending on local conditions, these rations usually have a decreased cereal level and a reduced number of other food items in the food basket. In many situations a food basket consisting of cereal and oil only is provided. In cases where the protein provision of the diet is marginal, pulses are also included.

38. In a post-emergency phase, food assistance alone will not be a major factor in achieving sustainable food security. It should be accompanied with other non-food inputs such as agricultural and credit schemes to support rehabilitation/resettlement efforts, and should be considered as an incentive and an income support, contributing to building up assets in order to create medium-and long-term food and nutrition security.

List for further reading:

1. WHO: Management of nutrition in major emergencies (in press)
2. Committee on International Nutrition: estimated per capita energy requirements for planning emergency food aid rations
3. Memorandum of Understanding on the joint working arrangements for refugee, returnee and internally displaced persons feeding operations; WFP/UNHCR, March 1997

Energy Requirements for Emergency-Affected Populations, Developing country profile (demography and anthropometry); Kilocalories per day

| Age/sex group (years) | Male ^a | | Female ^a | | Male & Female ^a | |
|-------------------------------|-----------------------|------------------------------|-----------------------|------------------------------|----------------------------|------------------------------|
| | % of total population | Energy requirement per caput | % of total population | Energy requirement per caput | % of total population | Energy requirement per caput |
| 0 | 1.31 | 850 | 1.27 | 780 | 2.59 | 820 |
| 1 ^b | 1.26 | 1250 | 1.20 | 1190 | 2.46 | 1220 |
| 2 ^b | 1.25 | 1430 | 1.20 | 1330 | 2.45 | 1380 |
| 3 ^b | 1.25 | 1560 | 1.19 | 1440 | 2.44 | 1500 |
| 4 ^b | 1.24 | 1690 | 1.18 | 1540 | 2.43 | 1620 |
| 0-4 | 6.32 | 1320 | 6.05 | 1250 | 12.37 | 1290 |
| 5-9 | 6.00 | 1980 | 5.69 | 1730 | 11.69 | 1860 |
| 10-14 | 5.39 | 2370 | 5.13 | 2040 | 10.53 | 2210 |
| 15-19 | 4.89 | 2700 | 4.64 | 2120 | 9.54 | 2420 |
| 20-59 ^c | 24.80 | 2460 | 23.82 | 1990 | 48.63 | 2230 |
| 60+ ^c | 3.42 | 2010 | 3.82 | 1780 | 7.24 | 1890 |
| Pregnant | | | 2.4 | 285(extra) | 2.4 | |
| Lactating | | | 2.6 | 500(extra) | 2.6 | |
| Whole Population ^c | 50.84 | 2250 | 49.16 | 2010 | | 2070 |

Sources: (1) Energy requirements derived from WHO Technical Report Series No. 724

(2) Population data (mid-1995): UN Population Division, New York

^a Adult weight: male 60 kg, female 52 kg.

^b Population estimates for years 1, 2, 3 and 4 are not available from UN. Estimates for these years were made by interpolation between the figures given by UN for 0 year and 5 years.

^c The figures given here apply for light@activity level (1.55 x BMR for men, 1.56 x BMR for women).

(The BMR - basal metabolic rate - is the rate of energy expenditure of the body when at complete rest e.g. sleeping.) Adjustments for moderate and heavy activity: see Annex II.

N.B. The requirements as expressed above do not take into account the varying fibre content, digestibility and complex-carbohydrate composition of the diet.

In developing countries, a relatively high proportion of fibre and less-available carbohydrate is usually present. The carbohydrate content of foods may be expressed in terms of its various components (starches, sugars, fibre, cellulose, lignins, etc.) or simply as the calculated difference between the total weight and the sum of the other components (fat, protein, minerals and water). This issue is discussed in WHO Technical Report Series No. 724, section 7.1. If the Atwater factor (4 Kcals per gramme) is applied to carbohydrate by difference, the real energy available in the food should be decreased by 5% or the requirement for this type of diet increased by 5%; which, for this Table,

means an increase of +100 Kcals in the energy requirement indicated.

Mean population energy requirement, and recommended increments of energy (Kcal per day) needed, taking into account the levels of activity, environmental temperature and food losses during transport¹

| | <u>Developing country</u> |
|---|-------------------------------|
| 1. Mean energy requirement | 2070 |
| 2. Adjustment to requirement for activity-level of adults (18 years+) | |
| <u>Moderate</u> *: Males | +360 |
| Females | +100 |
| Whole population (adults & children) | +140 |
| <u>Heavy</u> *: Males | +850 |
| Females | +330 |
| Whole population | +350 |
| 3. Adjustment to requirement for mean daily temperature (EC): | |
| 20E | - |
| 15E | +100 |
| 10E | +200 |
| 5E | +300 |
| 0E | +400 |
| 4. Adjustment to cover possible food losses in transport: | |
| Country with port | +5% |
| Landlocked country | +10% |
| (These figures are not absolute but should be adjusted up or down according to local realities) | |

¹ Adapted from WHO "The Management of Nutrition in major Emergencies"

*Basal metabolic rate (BMR) is the rate of energy expenditure of the body when totally at rest (e.g. sleeping).

The requirement for moderate or heavy activity is calculated by multiplying the BMR by the following factors (compared with 1.55 x BMR for light activity in males, 1.56 x BMR for females):

| | <u>Males</u> | <u>Females</u> |
|-------------------|--------------|----------------|
| Moderate activity | 1.78 | 1.64 |
| Heavy activity | 2.10 | 1.82 |

ANNEX III Nutritional Value of commonly used food aid commodities in Emergencies

| | Nutritional value/100g | | |
|----------------------------------|------------------------|----------------|------------|
| | ENERGY (Kcal) | PROTEIN (g) | FAT (g) |
| CEREALS | | | |
| Wheat | 330 | 12.3 | 1.5 |
| Rice | 360 | 7.0 | 0.5 |
| Sorghum/Millet | 335 | 11.0 | 3.0 |
| Maize | 350 | 10.0 | 4.0 |
| PROCESSED CEREALS | | | |
| Maize meal | 360 | 9.0 | 3.5 |
| Wheat flour | 350 | 11.5 | 1.5 |
| Bulgur wheat | 350 | 11.0 | 1.5 |
| BLENDED FOODS | | | |
| Corn soya blend (CSB) | 380 | 18.0 | 6.0 |
| Wheat soya blend (WSB) | 370 | 20.0 | 6.0 |
| Soya-fortified bulgur wheat | 350 | 17.0 | 1.5 |
| Soya-fortified maize meal | 390 | 13.0 | 1.5 |
| Soya-fortified wheat flour | 360 | 16.0 | 1.3 |
| Soya-fortified sorghum grits | 360 | 16.0 | 1.0 |
| DAIRY PRODUCTS | | | |
| Dried skim milk (enriched) (DSM) | 360 | 36.0 | 1.0 |
| Dried skim milk (plain) (DSM) | 360 | 36.0 | 1.0 |
| Dried whole milk (DWM) | 500 | 25.0 | 27.0 |
| Canned cheese | 355 | 22.5 | 28.0 |
| Therapeutic Milk (TM) | 540 | 14.7 | 31.5 |
| MEAT & FISH | | | |
| Canned meat | 220 | 21.0 | 15.0 |
| Dried salted fish | 270 | 47.0 | 7.5 |
| Stockfish | - | - | - |
| Canned fish | 305 | 22.0 | 24.0 |
| OIL & FATS | | | |
| Vegetable oil | 885 | - | 100.0 |
| Butter oil | 860 | - | 98.0 |
| Edible fat | 900 | - | 100.0 |
| PULSES | | | |
| Beans | 335 | 20.0 | 1.2 |
| Peas | 335 | 22.0 | 1.4 |
| Lentils | 340 | 20.0 | 0.6 |
| MISCELLANEOUS | | | |
| Sugar | 400 | - | - |
| Dried fruit | 270 | 4.0 | 0.5 |
| Dates | 245 | 2.0 | 0.5 |
| Tea (black) | - | - | - |
| Iodized salt | - | - | - |

ANNEX IV Vitamin and Mineral Requirements - Safe Levels of Intake (summary)^{1, 2}

| Age/Sex Group (years) | Vitamin A (: g retinol equivalents RE*) | Vitamin D (: g calciferol) | Thiamine (mg)** | Riboflavin (mg)** | Niacin equivalents (mg)** | Folic acid (: g) | Vitamin B12 (: g) | Vitamin C (Ascorbic Acid; mg) | Iron (mg): ³ Bioavailability Low (5-9%) | Iodine (: g) |
|-----------------------|---|----------------------------|-----------------|-------------------|---------------------------|------------------|-------------------|-------------------------------|--|--------------------|
| 0 | 350 | 10.0 | 0.3 | 0.5 | 4.2 | 24 | 0.1 | 20 | 13 | 50-90 ⁴ |
| 1 | 400 | 10.0 | 0.5 | 0.8 | 6.4 | 50 | 0.45 | 20 | 8 | 90 |
| 2 | 400 | 10.0 | 0.55 | 0.9 | 7.5 | 50 | 0.53 | 20 | 8 | 90 |
| 3 | 400 | 10.0 | 0.60 | 1.0 | 8.2 | 50 | 0.61 | 20 | 9 | 90 |
| 4 | 400 | 10.0 | 0.65 | 1.1 | 8.9 | 50 | 0.69 | 20 | 9 | 90 |
| 0-4 | 390 | 10.0 | 0.5 | 0.8 | 7.1 | 45 | 0.50 | 20 | 9 | 90 |
| 5-9 | 400 | 2.5 | 0.75 | 1.2 | 10.3 | 80 | 0.82 | 20 | 16 | 110 |
| 10-14 M | 550 | 2.5 | 0.95 | 1.6 | 13.1 | 150 | 1.0 | 25 | 24 | 140 |
| 10-14 F | 550 | 2.5 | 0.8 | 1.35 | 11.3 | 130 | 1.0 | 25 | 27 | 140 |
| 10-14 M & F | 550 | 2.5 | 0.9 | 1.5 | 12.2 | 140 | 1.0 | 25 | 26 | 140 |
| 15-19 M | 600 | 2.5 | 1.1 | 1.8 | 15.3 | 200 | 1.0 | 30 | 15 | 150 |
| 15-19 F | 500 | 2.5 | 0.9 | 1.4 | 11.9 | 170 | 1.0 | 30 | 32 | 150 |
| 15-19 M & F | 550 | 2.5 | 1.0 | 1.6 | 13.6 | 185 | 1.0 | 30 | 24 | 150 |
| 20-59 M | 600 | 2.5 | 1.0 | 1.7 | 14.5 | 200 | 1.0 | 30 | 15 | 150 |
| 20-59 F | 500 | 2.5 | 0.8 | 1.4 | 11.5 | 170 | 1.0 | 30 | 32 | 150 |
| 20-59 M & F | 570 | 2.5 | 0.9 | 1.55 | 12.9 | 185 | 1.0 | 30 | 23 | 150 |
| Pregnant | +100 | +7.5 | +0.1 | +0.1 | +1.1 | +250 | +0.4 | +20 | +60-120 | +50 |
| Lactating | +350 | +7.5 | +0.2 | +0.3 | +2.7 | +100 | +0.3 | +20 | 17 | +50 |
| 60+ M | 600 | 3.2 | 0.9 | 1.4 | 11.9 | 200 | 1.0 | 30 | 15 | 150 |
| 60+ F | 500 | 3.2 | 0.75 | 1.2 | 10.3 | 170 | 1.0 | 30 | 15 | 150 |
| 60+ M & F | 540 | 3.2 | 0.8 | 1.3 | 10.9 | 185 | 1.0 | 30 | 15 | 150 |
| Whole Population | 500 | 3.2 - 3.8*** | 0.9 | 1.4 | 12.0 | 160 | 0.9 | 28 | 22 | 150 |

¹ Adapted from WHO "The Management of Nutrition in major Emergencies" ³ Basis of calculations of iron requirements: = 7.5% (diets as in developing countries)

² This Table is applicable to both developing and industrialized countries.

⁴ The lower figure is for breast-fed infants; the higher, for artificially fed.

In countries (e.g. South Asia) where iron absorption is known to be "very low" (<5%), requirements are about twice as high, but cannot be met by increasing the diet. In such circumstances iron supplements, at least weekly, will be required for the most vulnerable groups especially pregnant women, pre-school children, older girls

* Vitamin A requirements may be met by absorption of vitamin A itself (retinol) or provitamin A carotenoids, which have varying equivalence in terms of vitamin A activity. The requirement is expressed in terms of the Retinol equivalent@ (RE) which is defined by the following relationships: 1: g retinol = 1.0: g RE; 1: g beta-carotene = 0.167: g RE; 1: g other provitamin A carotenoids = 0.084: g RE

** B-vitamin requirements are proportional to energy intake and are calculated: Thiamine: 0.4 mg per 1000 kilocalories ingested; Riboflavin: 0.6 mg per 1000 kilocalories ingested; Niacin equivalents: 6.6 mg per 1000 kilocalories.

*** The higher figure is for developing countries because of the larger proportion of children under 5 years whose requirement is greater.