Types of Malnutrition

Each form of malnutrition depends on what nutrients are missing in the diet, for how long and at what age.

The most basic kind is called protein energy malnutrition. It results from a diet lacking in energy and protein because of a deficit in all major macronutrients, such as carbohydrates, fats and proteins.

Marasmus is caused by a lack of protein and energy with sufferers appearing skeletally thin. In extreme cases, it can lead to kwashiorkor, in which malnutrition causes swelling including a so-called 'moon face'.

Other forms of malnutrition are less visible - but no less deadly. They are usually the result of vitamin and mineral deficiencies (micronutrients), which can lead to anaemia, scurvy, pellagra, beriberi and xerophthalmia and, ultimately, death.

Deficiencies of iron, vitamin A and zinc are ranked among the World Health Organization's (WHO) top 10 leading causes of death through disease in developing countries:

- **Iron deficiency** is the most prevalent form of malnutrition worldwide, affecting millions of people. Iron forms the molecules that carry oxygen in the blood, so symptoms of a deficiency include tiredness and lethargy. Lack of iron in large segments of the population severely damages a country's productivity. Iron deficiency also impedes cognitive development, affecting 40-60 percent of children aged 6-24 months in developing countries (source: Vitamin & Mineral Deficiency, a global damage assessment report, Unicef).
- **Vitamin A** deficiency weakens the immune systems of a large proportion of under-fives in poor countries, increasing their vulnerability to disease. A deficiency in vitamin A, for example, increases the risk of dying from diarrhoea, measles and malaria by 20-24 percent. Affecting 140 million preschool children in 118 countries and more than seven million pregnant women, it is also a leading cause of child blindness across developing countries (source: UN Standing Committee on Nutrition's 5th Report on the World Nutrition Situation, 2005).
- **Iodine deficiency** affects 780 million people worldwide. The clearest symptom is a swelling of the thyroid gland called a goitre. But the most serious impact is on the brain, which cannot develop properly without iodine. According to UN research, some 20 million children (source: Vitamin & Mineral Deficiency, a global damage assessment report, Unicef) are born mentally impaired because their mothers did not consume enough iodine. The worst-hit suffer cretinism, associated with severe mental retardation and physical stunting.
- **Zinc deficiency** contributes to growth failure and weakened immunity in young children. It is linked to a higher risk of diarrhoea and pneumonia, resulting in nearly 800,000 deaths per year.