*Women winnowing maize* *Photo by Ken Wilson*

## 2. PROTEIN

**Does meeting protein needs depend merely on quantity?**

Protein in the food ration comes from pulses, dried skimmed milk (when provided) and cereals. The adequacy of these foods as a protein source does not depend only on their quantity, but also on the quality. The protein quality of a food depends on its digestibility and amino-acid content. A judicious mix of vegetable foods such as cereals and legumes can adequately meet protein needs, but the particular combination of staple cereal and/or pulses given to refugees sometimes lacks certain essential amino-acids and in these cases may be deficient.

## 3. FAT

**Why is fat an important part of the ration?**

Fat is a rich source of energy, which is important for individuals, and particularly for children. It is vital in enabling an individual to meet energy requirements by providing a source of low bulk, high energy food. It is otherwise problematic for children (and especially for weaning infants) actually to eat enough of a bulky cereal to satisfy their energy needs. The fat component is also critical in facilitating the absorption of fat soluble vitamins as well as in making the rest of the ration palatable.

## 4. VITAMIN AND MINERAL CONTENT

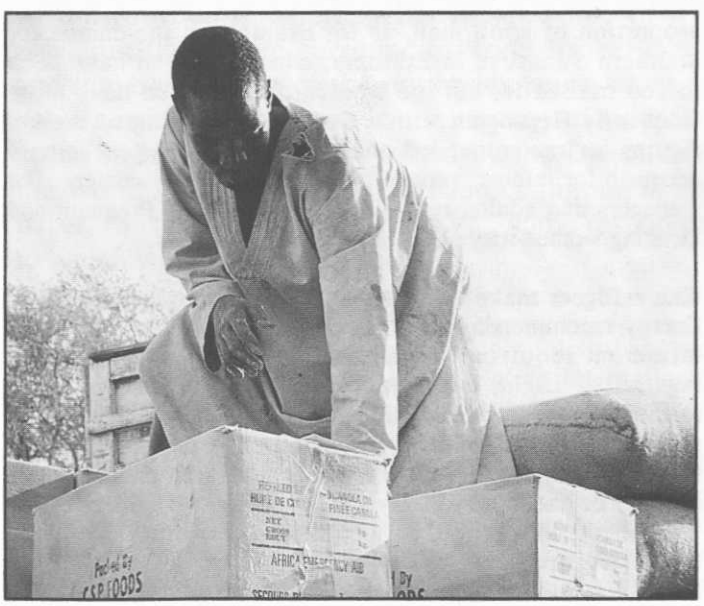
Without fortification, the ration is deficient in vitamin A, C and some of the B complex vitamins, as well as lacking in iron and other trace minerals. The food provided is often old, and in addition has to be transported long distances. Vitamin C in particular is unstable chemically, which has resulted in further depletion of its content in the food. One means of acquiring all the vitamins necessary for a healthy diet is local cultivation or acquisition of fresh foods to supplement the basic ration. The outbreak of deficiency diseases in different refugee populations around the world is evidence that this is not always possible. For example, an outbreak of scurvy in camps in Somalia was directly related to the closure of the local market. Scurvy continues to be a problem in Eastern Ethiopia. Pellagra is a problem in southern Africa amongst displaced Mozambicans, and iron-deficiency anaemia among women and children is an on-going and widespread problem in many different countries (UNHCR 1989)

**Is the lack of variety in the ration a problem?**

The lack of variety in the ration can be a problem if the combination of foods do not in themselves constitute a balanced diet. More generally, the lack of variety in the diet means that less will be eaten: although this is sometimes described as 'fussiness', refusal of food under a monotonous diet has been proven to have a physiological basis.

**What factors determine what types of food are distributed to refugees?**

Little success has been achieved in matching food supply to what refugees actually need for a balanced diet. The food distributed is based more on the surpluses available in the West than it is on the requirements of refugees themselves. In the past western Governments were keen to get rid of surpluses, but now that these are declining, food aid must increasingly be purchased. Most Governments seem somewhat reluctant to do this. The overproduction of milk in the West resulted in huge surpluses and a consequent storage problem. Therefore western governments have been eager to donate their unwanted dried skimmed milk as a protein source to refugees, despite the known problems associated with its use. A recent study in Pakistan showed that 75% of the tested samples of made-up milk had dangerously high levels of pathogenic bacteria. Secondary contamination from container handling was widely evident even after the water used in reconstitution had been boiled (WFP 1989). Unless fortified, DSM contains no vitamin A, if overdiluted it has little nutritional value, and if over concentrated, the high levels of protein and sodium can cause renal failure and even death. Its use is generally associated with acute diarhorrea and dehydration. The dangers of using it as a substitute for breast milk are particularly critical. The campaign, since the late seventies, against commercial manufacturers marketing the product, has not prevented



***Boxes of food aid oil being unloaded in the Red Sea Province***
*Photograph by OXFAM*

western Governments from distributing the milk in the form of food aid.

**Why don't international agencies provide more and better quality food?**

The inadequacy of the rations actually received is partly due to the financial constraints of international agencies. Western governments are not providing adequate funding. US expenditure on refugees has fallen from $20 per refugee in 1985 to approximately half this value at present. This has affected both UNHCR and WFP amongst other UN agencies. The number of refugees under UNHCR's care has risen from 10 million in 1985 to 15 million in 1989. This 50% increase in the refugee population has been matched by a mere 25% budget increase. The 1990 budget is deficient by an estimated $74 million as only $380 of the $414 required has been pledged, and $40 million of this will have to cover deficits from 1989 (Winter, 1990). WFP is in a similar situation, its operation being additionally hindered by the decreasing availability of surplus food in the West and reluctance on the part of donors to meet quotas on time (WFP Report submitted to, CFA 1989)

**Just how severe is the problem?**

The consequences for refugees of eating only the food which is distributed to them can be very severe when they are unable to supplement the ration. High levels of mortality and morbidity have been reported from some settlements in Malawi, Sudan, Zambia, Somalia and Pakistan (UNHCR 1989). There have also been epidemics of vitamin and mineral deficiency diseases (see above). For example, one extreme case was amongst Somalis in Hartisheik camp in September 1988 when there were malnutrition levels amongst children (ie less than 80% weight for height) of 13.5% but by March 1989 these levels had risen to 26.4% (see 'Nutritional Status of Somali Refugees - Eastern Ethiopia, September 1988 - May 1989' in *Morbidity and Mortality Weekly Report* July 7 1989 vol 38/ no 26.) But in Malawi, Zambia, and the Changai district of Pakistan the nutritional status of refugees is also deteriorating (UNHCR 1989). Ethiopian refugees in Eastern Sudan and Somalia are reported to have been receiving as little as 1100 kcal (Toole *et al*).

**How is the problem assessed?**

In recent years, many more child nutrition surveys levels are undertaken in refugee camps, but these alone can fail to reveal the severity of nutritional problems. If the mortality rate is not measured in conjunction with the nutritional status of a population, a stable level of malnutrition over time can give the false impression that conditions are not deteriorating. In fact, mortality may be rising: as the most severely malnourished die, they are replaced by previously healthy children. This was the case in Fau camp in Sudan where stable but high levels of child malnutrition (26-28%) masked the fact that over the three months between measurements, 13% of all children under the age of 5 had died. Although measles and diarhorrea were cited as the major killers, the high mortality rates of these diseases can sometimes be attributed to a low nutritional status. Because nutritional surveys are ambiguous, they can be used to justify contradictory strategies. (For a further discussion of this problem see Nieburg, P. *et al* 1988).

Additionally there are double standards: in Africa, malnutrition levels of up to 10% are sometimes deemed 'acceptable' (as these are said to correspond to levels among local populations), but cases of even a single child in such a condition in the UK are considered so outrageous as to be newsworthy.

**Who is responsible for providing food?**

This can best be answered by quoting from an RSP document 'Responding to the Nutrition and Health crisis of Refugees: the Need for a New System'.

> 'The existing international relief system allocates no specific responsibilities for preserving the physical welfare of refugees. Currently this resonsibility lies with the host government, the sovereign power. The mandate of the Office of the UN High Commissioner for Refugees (UNHCR) imposes no requirement nor responsibility to ensure the physical welfare or even the survival of refugees. World Food Programme (WFP) is the UN organization upon which UNHCR often relies for the major part of the food ration for refugees. Usually, when refugees are supported through bi-lateral relationships with the host government, donors respond to UNHCR and WFP requests according to their own policies. Responsibility for refugees' physical welfare therefore lies with the host government, which usually has few material and technical resources of its own. Linked to these problems, there is no formal system for evaluating the welfare of refugee populations, and therefore no system for identifying problems and where and how improvements need to be made. Where the host government does not, for whatever reason, co-ordinate the work of external agencies, co-ordination often does not occur. This often leads to a failure to ensure that all basic services are adequately provided.'

The institutional arrangement of these actors and the various NGOs involved are both varied and complex - allowing much scope for confusion: efforts can often be uncoordinated, with duplication of effort as well as gaps.

**Couldn't food be fortified?**

Fortification may be a practical solution in the short term to alleviate some of the nutritional deficiencies (Harrell-Bond, *et al* 1989, Henry, C.J.K 1990). If a suitable food is fortified, the process is relatively straightforward and cheap. Given the logistical problems of transporting rations to refugee camps, it may be more practical than trying to move fresh food in emergencies. For example, following an outbreak of scurvy in camps in Somalia, a suggestion was made to distribute limes to the affected populations. This proved impractical due to the large numbers required (1 million per day) and the inacessibility of the camp (over 800 miles from the supply). However, fortification will not solve the problem if the basic ration is inadequate. In the same example in Somalia,

fortification of the oil or sugar components of the ration would have been one of the most feasible solutions, but neither of these items were being regularly received.

Fortification should not be a substitute for supporting refugees in their own efforts to acquire a more balanced diet. These include strategies such as cultivating vegetables, barter, exchange and trade of food rations, and other income generating activities. The viability and nature of the options open to them will depend on the constraints and opportunities provided by the local environment Efforts should be made by relief programmes to give maximal scope to these activities (Wilson *et al* 1989).

**This article was compiled by Birindar Jackson and JoAnn McGregor, based on material presented in a stimulating course given at the Refugee Studies Programme by Dr Jeya Henry entitled 'Introduction to Nutritional Issues'.**

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