

# 4. PLANNING FEEDING

## 4.1 The needs - food & public health first

Much of what follows applies to the organisation of a large-scale dry ration distribution site with health care facilities as well as to on-site cooked feeding with residential feeding care.

### 4.1.1 Planning sequence

Discuss, plan and organise services in the following order:

1. find out what RRC, MOH, ENI guidelines there are; from CRDA find out what other organisations do similar work and enquire about their experience.
2. general agreement with local authorities (3, 4.2)
3. enquiries about supplies of food (3, 4.3, 4.4)
4. site and water supply (4.5, 4.6)
5. transport arrangements (4.7)
6. equipment and fuel supplies (4.8, 4.9, 4.16)
7. preliminary discussion of health services (4.10, 4.11)
8. sanitation and drainage (4.12, 4.13)
9. road access and construction work (4.14, 4.15)
10. staff (4.17, 4.18)
11. finalise equipment, fuel & transport, food (4.3) kitchens (4.20) & stock-keeping (4.21)
12. finalise coordination of health services

## 4.2 Local conditions, admission & discharge criteria

Make sure you and the local Drought Relief Committee agree on:

- who the feeding is for
- what the admission criteria are
- what the discharge criteria are
- under what circumstances feeding will be phased out

If you will be doing cooked feeding, will the feeding machine or the measured feeding approach be more suitable? See 3.7.2

If you are interested, now is the time to suggest development projects which could grow out of your involvement. If you are to supply seed, tools or other rehabilitation inputs later, plan this as soon as your feeding is established.

## 4.3 Food supplies

See 3.4 & 3.7 on dry rations vs. cooked feeding

### 4.3.1 Preliminaries

#### Local food and taste

Find out what food people normally eat, and investigate whether you can easily produce something similar.

Ethiopians, especially highlanders, are very fond of *injera* and you should provide it if you can. However, in a large feeding programme you will find it a very time-consuming, labour-intensive and fuel-inefficient way of getting food into large numbers of people). SCF favours the alternative non-fermented local bread, *kitta*, as an easier feeding programme staple.

Both *injera* and *kitta* require a lot of staff and fuel, and therefore more cash and organisation, than simpler meals composed of porridges and energy-dense drinks.

The thick porridges we make are similar to the local *kinche*; HED has no real equivalent, but is closest to the local *ganfo*, a gruel.

#### Fasting

Find out about rules governing fasting days, and whether your feeders have important food taboos.

Amharas fast for 50 days at Lent and on many other occasions. Ask when they are. On fasting days no animal products are eaten. If the people you are feeding DO mind what they eat on these days, make sure you substitute vegetable oil for butter oil, and replace DSM with eg SWF in your recipes on those days.

## Spices and relishes

Find out what the local spices and relishes are and decide whether it is advisable for feeders to be allowed them while under your care, and whether you should add them to your cooking.

Mothers frequently add green chillies (*karia*), to children's water or their meal, and red chilli (*berbere*) to porridge. DON'T copy them for the whole feeding programme, since they can irritate debilitated guts, and some of the children may not like it. Allow individual additions if the children prefer the taste.

Salt is often added to drinks and porridge. DON'T allow extra salt for oedema cases.

The table below gives food values for some foods commonly eaten in Ethiopia.

Food values — general		
Item	kcal per 100g	Protein g per 100g
Cereals (grain or whole grain flour)	350	10
Beans & Peas	360	20
Oils & Fats	900	0
Sugar	400	0
Vegetables	50-100	2
Milk	60	3
Eggs	140	12
Meat	200	25

These are rough, average values for foods commonly eaten in Ethiopia, to help you use them in your distributions and feeding when and where they are available.

## 4.3.2 Relief foods

Hundreds of thousands of tons of whole grain continue to be distributed in dry family ration allocations. Make use of other relief foods for cooked feeding.

The table below shows a variety of what is normally considered relief food, with those already seen in any quantity in Ethiopia starred (\*).

The food calculations in 4.3.4 & 4.3.5 and menus in 4.19 are based on these foods.

**NB** ICSM is very valuable on a feeding programme. It needs no cooking, therefore no fuel. Prepare by mixing into drums of sterilised, sun-warmed water. Save ICSM for emergencies!

## Food values for relief foods

Type of food	Average nutritional values <sup>a</sup> per 100 g		Minimum cooking time (min) after adding to boiling water	Remarks
	MJ/kcal <sub>th</sub>	Protein (g)		
<b>Blends of cereals, legumes, and dry skim milk</b>				
*CSM (Corn-Soy Milk)	1.6/370	20	5-10	CSM and WSM are supplied in 22.5 kg multiwall paper bags (the outer wall is impregnated with insecticides and moderately resistant to moisture); dimensions 51 x 84 x 25.5 cm.
*Instant CSM	1.6/380	20	Instant CSM is fully pre-cooked (ready to mix)	
WSM (Wheat-Soy Milk)	1.5/360	20	5-10	Vitamins and minerals added (except in the case of Faffa)
Superamine (Algeria only)	1.4/340	20	5-10	
*Faffa (Ethiopia only)	1.4/340	20	5-10	
<b>Blends of cereals and legumes</b>				
*WSB (Wheat-Soy Blend)	1.5/360	20	5-10	These foods do not contain cow's milk. Vitamins and minerals added to WSB, SFCM, incaparina, balahar, and SWF
*SF bul (Soy-Fortified bulgur)	1.5/350	17	20 less, if soaked overnight	
SFCM (Soy-Fortified Corn Meal)	1.6/390	13	15	SF bul is not a flour (cracked grains of bulgur wheat)
*SFSG (Soy-Fortified Sorghum Grits)	1.5/360	16	15	
SFFI 12% (Soy-Fortified Flour 12%)	1.5/360	16	15-20	
SFRO (Soy-Fortified Rolled Oats)	1.6/370	21	5	
Incaparina (Central America)	1.6/370	28	5-10	
Balahar (India)	1.5/360	22	5-10	
<b>Other blends</b>				
SEF (supplement-enriched food: wheat, FPC, DSM, sugar)	1.7/400	20	5	Keep well for about 9 months.
Semper I (cereals, DSM FPC, oil)	2.0/480	15	Fully precooked	
<b>Milks and fish-protein concentrates</b>				
*DSM (Dried skim milk)	1.5/350	35		Milks have a high lactose content. DSM contains no vitamins A or D unless this is mentioned on the bag. Milks provided by UNICEF, USA and Canada are usually enriched.
DFCM (Dried full-cream milk or whole milk)	2.1/500	25		
*Sweetened condensed milk	1.3/320	13	Fully precooked	DFCM does not store well once a container has been opened (rancidity).
FPC (fish-protein concentrate)				FPC type A does not smell or taste of fish but is more expensive than type B.
type A	1.5/360	75		
type B	1.4/340	65		
<b>Others</b>				
Bulgur wheat (whole grain)	1.5/350	11	20 (less, if soaked overnight)	
Biscuits	1.7/400			

<sup>a</sup>Values in MJ rounded to one decimal place on conversion from kcal<sub>th</sub>

\*Seen in Ethiopia

Source: Ville de Goyet (see 1.3)

### **4.3.3 Menu-making for cooked feeding**

#### **Nutritional requirements for drought feeding**

See 8.10 for basic nutrition.

#### **Liquid**

Remember that hungry people in a drought are usually also DEHYDRATED.

You have an opportunity in a feeding programme to re-hydrate them with liquid food which is safe as well as nutritious. See HED recipe 4.19.2

#### **Energy density**

In a famine emergency, the most important thing is to feed people enough calories contained in as small a volume of food as possible, preferably with enough protein to cover their needs.

The calorie needs of the various vulnerable groups differ. A consumption rate of 150-200 kcals/kg/day is recommended for catch-up growth in malnourished children. You may have enough staff to provide and supervise differentiated amounts in feeds. Otherwise, a rough rule-of-thumb average for a group of children 1-5 years on a feeding programme:

- try to get 2000-2500 kcals into them every day.
- try to get 2500 kcals into PLWs and sick adults.

See 3.4.4 for more exact requirements, 4.3.2 for the energy contents of foods, & 4.19 for basic recipes.

By using oil or fat in your recipes you can make up a palatable menu providing at least 20% of the calories in oil or fat. The more oil and fat in the menu the more energy-dense it will be.

#### **Protein content**

The needs of the vulnerable groups range from 35 g per day for young children to 65 g per day for PLWs. Remember that protein can only be used by the body when the calorie requirements have been fulfilled. That is why we emphasise the calorie content of relief food.

#### **Variety**

Although variety is important for nutritional balance, and continued interest, it is difficult to vary the food for hundreds or thousands of people eating a small variety of relief foodstuffs cooked in simple kitchens. The most rational way to proceed is:

- prepare minimum 2 different cooked items for the meals you serve - one solid, one liquid.
- stock a small quantity of other ingredients to vary the taste of the meals, in order to encourage very difficult eaters and slow gainers to keep eating.

**Taste**

Taste is very important to people eating exactly the same thing every day. Experiment with the soups, jams etc. to devise variety of taste for difficult feeders, and to provide slightly different meals for religious holidays. SCF Kobo served an odd consignment of tinned goulash and ratatouille for Christmas lunch, for example.

Make sure whoever is responsible for making up the recipes:

- makes up something that tastes good to the local people (let the guards taste it!),
- and carries a SPOON around and tastes every item at least once a day.

Use sugar and salt in your recipes to make them tasty. Allow the feeders to add *berbere* or *karia* if they want to. (NO salt for oedema cases!)

**4.3.4 Composition of basic food supplies for cooked feeding programmes**

This must reflect the principles outlined in 4.3.3

ENERGY BASE	(grain, flour)
+ ENERGY SUPPLEMENT	(oil, fat)
+ PROTEIN SUPPLEMENT	(DSM, beans, sardines)
+ FLAVOURING	(salt etc.)

Suppose you have to provide an average 2500 kcals and 65 g protein per day to your vulnerable group feeders:

1. You will probably have a limited variety of relief foods to work with; it is most sensible to assume you will only have the most common ones. If you have a small supply of something unusual, keep it to mix in on special days.
2. You need to calculate what you need for one feeder, then multiply it to estimate daily, weekly, monthly, annual supplies as appropriate.

### Suggested daily relief food consumption to cover vulnerable group requirements

ITEM	g	KCALS		PROTEIN	
		/100g	Total	/100g	Total
Cereals or flour	500	350	1750	10	50
Oil or fat	75	900	675	0	0
DSM	50	350	175	30	15
<b>TOTALS</b>	<b>625 g</b>		<b>2600 kc</b>		<b>65 g</b>

This gives 675 kcals from fat, or 26% fat calories.

A total 65 g of protein (x conversion factor 4) give 10% protein calories.

**NB** This is only an example of how to make up kcal, fat & protein requirements.

#### Calculating programme requirements

The "g" (gramme) column gives you the weights of the different foods you need for one person for one day.

Multiply each one by the number of feeders to find daily requirements of that commodity.

Multiply the result by 7 to find weekly requirements, or by 30 to find monthly requirements.

Multiply the daily requirements by 365, or the monthly requirements by 12, NOT 13, to calculate annual requirements.

**NB** The relief operation uses the European calendar for requirements calculations, although much correspondence and RRC reporting use the Ethiopian calendar.

### 4.3.5 Turning food supplies into meals

The following example of a 2-dish diet is taken from SCF Error (Harerghe). Recipes were worked out to use the food offered to SCF by RRC and NGOs.

Error had half its feeders on Special Care (2500 kcals per day) feeding, and half on Intensive (2000 kcals per day) feeding. Both groups had two big meals each day of High Energy Drink (HED) and porridge or biscuits. The meals were worked out on the basis of giving an average 2250 kcals per feeder. The difference between the groups was that the Intensive feeders had less HED than the Special Care feeders.

The Error menu provides a very energy-dense diet because of the large amount of oil. There are more kilocalories in each plateful or

cupful than in the combination of ingredients in 4.3.4.

This porridge diet, *followed* by a drink or water, is especially good for hungry children as long as they can absorb the oil. Children need a lot of energy but their stomachs are small, so they cannot eat so much in *volume* each time. The more kcals they can get into their stomachs in a smaller volume, the faster they will put on weight.

ITEM	HED (g)	PORRIDGE (g)	KCALS		PROTEIN	
			/100g	Total	/100g	Total
CSM	100	180	380	1064	18	50
DSM	45		350	158	30	13
Oil	85	20	900	945	0	0
Sugar	40		400	160	0	0
<b>TOTALS</b>	<b>270 g</b>	<b>200 g</b>		<b>2327 kc</b>		<b>63 g</b>

ie. 41% fat kcals  
11% protein kcals

However, you will find some children cannot cope with such large amounts of oil in their diet, especially when they have had virtually no fat for some time. You may decide to start with 20% fat calories and gradually increase the proportion.

## 4.4 Notes on biscuits

Biscuits are expensive and dry; but they are also very convenient, especially in an emergency.

### 4.4.1 When to use them

- as enticement to weighing and screening sessions
- when you run out of water or fuel for cooking
- when the supply of other foods fails (keep an emergency stock of biscuits - eg. 5000 kcals per feeder)
- when a feeder refuses everything else

The other reasons why you might make general use of biscuits are:

- if you have an enormous supply (SCF Korem used biscuits for 2 of the 6 regular daily feeds for children under 80% WFL. The practice started when we had limited staff, kitchen space and fuel. We



consequently requested our suppliers for large amounts of biscuits, and these were used to fill the gaps between planned meals and the considerable variation in numbers)

— as a take-home ration, IF you have mountains

### 4.4.2 Which kind of biscuit?

The same nutritional and feeding considerations apply to biscuits as other foods: calories first. Most commercial sweet biscuits contain 400 kcals per 100 g and are as good energy sources as most of the more expensive "high protein, high energy" biscuits.

Choose a biscuit that children can hold and dunk easily without it crumbling/dissolving too quickly.

### 4.4.3 Serving biscuits

Serve biscuits with liquid, to dip them into, preferably HED.

Biscuits vary greatly in shape and energy-content; one generous handful gives at least 250 kcals, but check this with the details in the biscuit box and make more accurate calculations.

## 4.5 Site feasibility

### 4.5.1 Site inspection

Any plans for gathering many people in one place, either for dry distribution or for cooked feeding and other services, can only develop after a site inspection, paying special attention to:

- actual and potential water supply (& latrines)
- buildings and road access
- prevailing wind direction

### 4.5.2 Site prerequisites

- near a good *water* supply (see 4.6)
- on or near a *road*, at least a rural feeder road
- on slightly *sloping land*, for natural drainage
- in the *lee* of any high ground (ask the farmers how the prevailing wind blows)

### 4.5.3 Site size

Always plan with expansion possibilities in mind.

DON'T plan your unit size for too many people, but do plan plenty of space, within each unit and space for extra units.

SCF Korem was designed as a 5-10 thousand unit, with one enormous kitchen, and enormous feeding halls. This proved difficult for the local workers to manage. For large camps and shelters, we recommend limiting each live-in care and feeding unit to maximum 1000 persons, on absolute minimum 5000 sq m (= 1/20 hectare). SCF Kobo was designed for 1000 children, was packed into this space, and it was cramped.

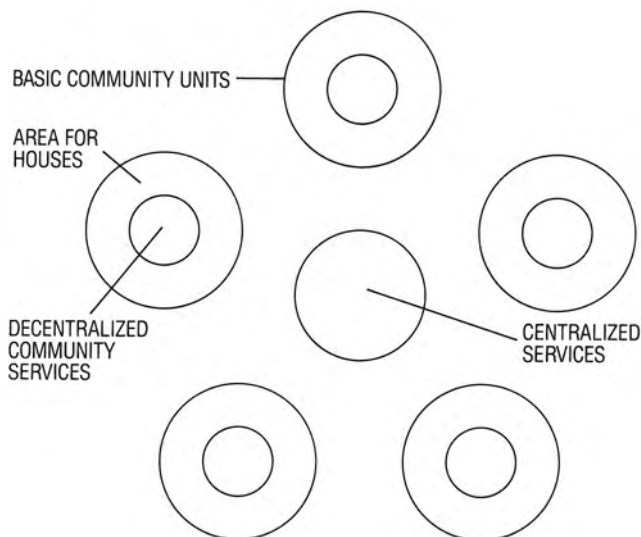
Several smaller units radiating off a central services area comprising kitchens, hospital and administration are each easier for staff to identify with, to recognise the members of, and consequently to organise and keep organised.

See 4.20.2 on kitchen organisation.

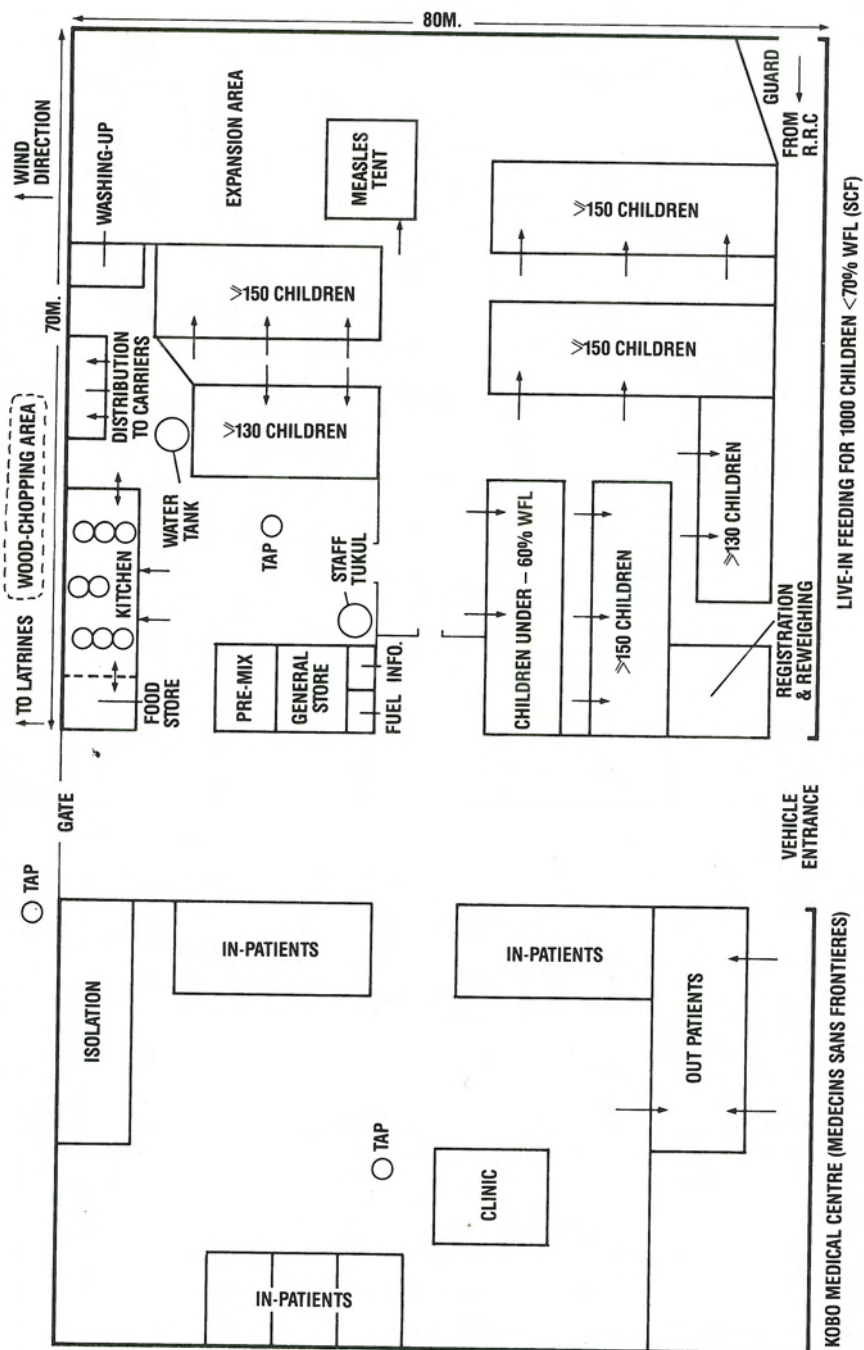
### 4.5.4 Site layout

See 4.15 on buildings

#### Example of a circular layout (UNHCR Handbook 1982).



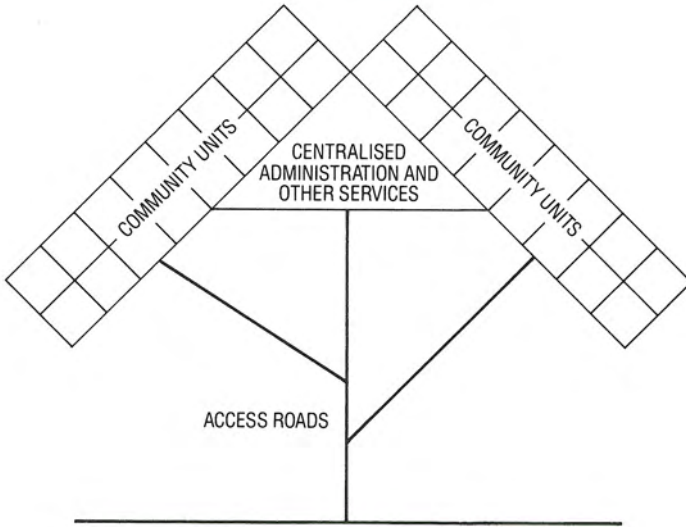
# EMERGENCY CHILD FEEDING SITE — KOBO 1984-5 (see photo)



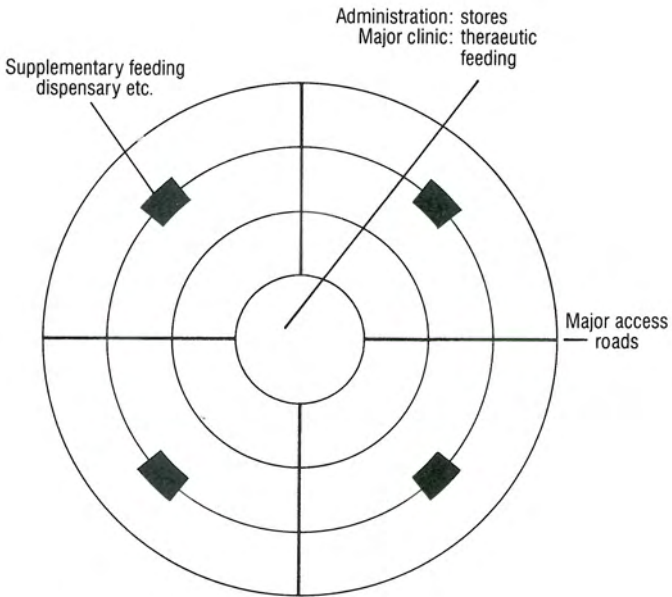
LIVE-IN FEEDING FOR 1000 CHILDREN <70% WFL (SCF)

KOBO MEDICAL CENTRE (MEDECINS SANS FRONTIERES)

## Site Layouts

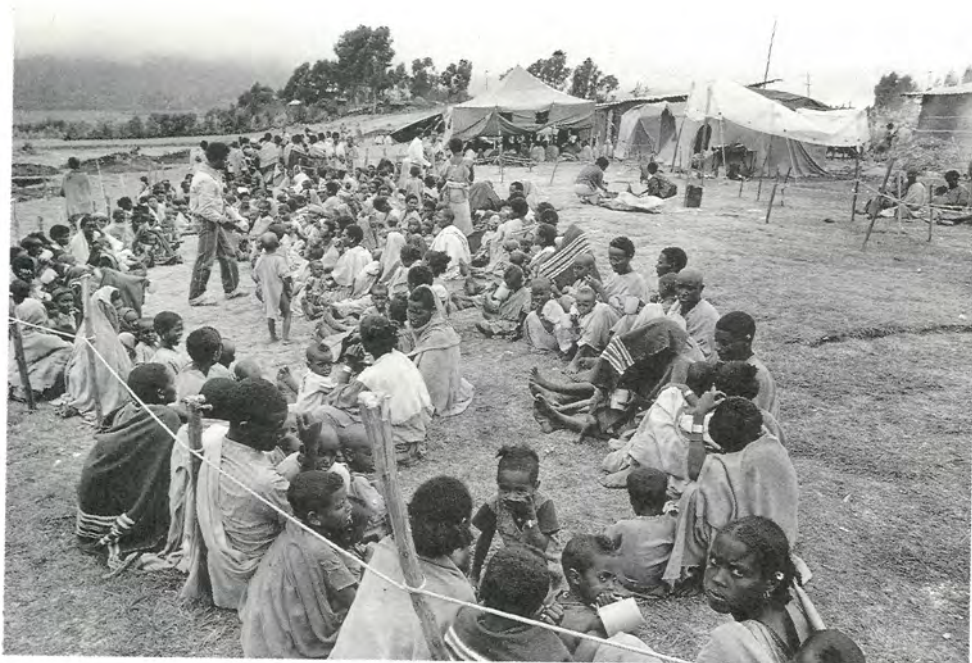


**A. Modified cross axis plan**



**B. Circular plan**

Source: DISASTERS (see 1.3)



#### 4.5.4 Korem 1983

A makeshift emergency feeding programme site. In view are the clinic tent, and the under-70% WFL feeders under cover, both at the top end of the site near the entrance. The 70-80% WFL feeders are in the foreground. The fields at the lower end of the site, on the left, are designated as latrine area. Off the picture, away from the feeders and general activity, are the stoves and kitchen area. (Photo: Mike Wells)

#### 4.5.4 Kobo 1985

A feeding site designed to last a year. See the plan of the site in this section. (Photo: Mike Wells)

