4.16 Materials, equipment & costs -buildings & roads

4.16.1 Structural support

Use local eucalyptus poles, available from the Forestry Authority (FAWcDA). Anything above pole size 4 is very expensive. Size 4 (3-5 cm in diameter and 6-8 m long) cost $0.45 each. Size 6 (7-9 cm diam) cost $4.25.

Remember that it is ILLEGAL to cut down trees, or transport poles, without permission from FAWcDA.

FAWcDA have offices in the regional capital and many other towns.

4.16.2 Roofing

Corrugated iron sheets are the best local material. They cost no more than twice the price of imported plastic sheeting, the thicker sheets withstand the wind & rain better and they last a lot longer.

SCF had to use plastic for roofing during a long period when corrugated iron was not available, and found it far more vulnerable to wind and rain, and needed replacing after only a few months.

Costs: corrugated iron $7 per sq m
plastic $3 per sq m

4.16.3 Nails

A variety of ironmongery is available locally.

Umbrella-head nails for corrugated iron sheeting disappear from the market frequently. SCF Kobo has made very successful use of nails hammered through old bottle tops instead; SCF Bulbulo has used small pieces of old tyres.

4.16.4 Wall cladding

- corrugated iron
- reinforced plastic sheeting (imported)
- bamboo

- other local wood or brush
- a combination

Criteria for choice are:

— local weather conditions
— availability
— ventilation

SCF Kobo, a hot site, had a combination of all these materials; the bamboo lower walls mean that the air can circulate around the feeders inside. Dust is kept to a minimium by having one plastic wall against the prevailing wind.

SCF Korem, a much colder site, uses mostly corrugated iron sheeting for walls as well as roof.

4.16.5 Stores & kitchens

Stores warrant solid buildings, medical stores in particular - corrugated iron or concrete blocks, and must be large enough to hold your stock - all of it. Calculate 12 sq m floor space per 10 tonnes.

Kitchens need to be airy, with good roofs. They can easily be open along one long side.

4.16.6 Heavy equipment

Earth-moving machines etc. can be loaned or rented from ETCA, as can road-building equipment.

EWWCA have supplies of parts as well as equipment used in waterworks construction.

You may be asked to pay per diems for the operations ($10-20 per day), and for fuel ($40-60 per machine per day).

4.16.7 Own equipment

Builders of large feeding programmes could import:

- JCB (tractor with loader & excavator attachments)
- ordinary tractors, with trailers, spreaders
- cement-mixer

- selection of small, light tools (picks, shovels, rakes, hoes and mattocks)

These could be handed over to the local authorities, ETCA or EWWCA after the crisis.

4.16.8 Water parts & fittings

EWWCA & OXFAM have these.

Remember that plastic piping is more suited to unskilled labour than steel; OXFAM is importing large quantities of this, as well as tanks with Butal linings (up to 45 000 l. capacity) which are relatively cheap and easy to erect.

4.16.9 Stone

Stones over 10 cm in diameter - from kebeles or ETCA, costing $5-13 per cu.m, and $13 for stones 20-30 cm diam.

Roadstone 5-10 cm diam is free from ETCA.

Sand & gravel: from the kebele or ETCA or free from a river bed, but check first with the administration that you may take it.

4.16.10 Cement

from EDDC (Eth. Domestic Distribution Corporation in the regional capital). Costs $15-20 per 50 kg bag.

4.16.11 Drainage and water pipes

Concrete drainage pipes, 10-80 cm in diameter, cost $10-30 each. Plastic sheeting can also be used for drainage by laying one half in a trench (25 cm by 50 cm deep), filling with stones and covering with the other half and more stones.

Galvanised steel pipes & fittings for water are very expensive. OXFAM is importing plastic ones which are more suitable for unskilled labour. N.B. 3" for mains; 1" for distribution

4.16.12 Plastic sheeting

Only thin sheeting is available in Ethiopia. Imported thicker sheeting has been very useful, especially for quickly creating large clean surfaces for cooking, or medical work.

Photos:
6.1.1 — medical use
4.15 — emergency tenting
4.5.4 — building material

4.16.13 Bamboo

This local building material makes very good ventilated walls. Local labourers know how to extract wire from old tyres to bind it with.

Ask if it grows locally and order it by the truckload through the Drought Relief Committee.

4.17 Contracts and labour legislation

Study the Ethiopian labour laws in *Negarit Gazeta* carefully. Amharic & English versions are available from the Ministry of Labour. The following is only a very brief simplification—

Working hours are 8-4 Monday-Friday; 8-12 Saturday. Overtime is time-and-a-half on weekdays; and double time on Sundays and public holidays. Public holidays are those marked in red on Ethiopian calendars, plus others which may be announced. Religious public holidays in Moslem areas may depend on visibility of the moon.

Per diems are payable to anyone required to travel outside their normal place of work; this applies, for example, to MOH workers who volunteer for a month or more drought service, and to drivers, whose per diems for all days on the road are added to their salaries.

Daily labourers must be paid every day.

Workers you have paid monthly for 3 months then become permanent employees, whether there is a written contract or not. For permanant employees the employer is liable to pay tax, medical expenses and severance pay upon termination of employment.

Some parts of the regulations governing employer liability towards "permanent employees" may be reviewed or waived in relation to drought relief employment, but hitherto ALL employers are bound by *Negarit Gazeta*.

Check with the local administration about any rules they have concerning drought relief employment. In Wollo it has become the rule that high-school graduate auxiliaries and unskilled staff must be hired from among the local population; employing people from other towns is not acceptable to the administration.

Also consult all other NGOs in your area over pay. You should all try to pay about the same for similar work. Enticing other people's staff away with higher pay will make you very unpopular and reduce your chances of cooperation in other fields.

NB There is a well-developed and much-used legal system in Ethiopia, through which private lawyers can contest illegalities with considerable tenacity on behalf of their clients. If in doubt over employment, other laws and formulations on documents, consult the legal adviser of your counterpart ministry before acting, or you may find your organisation involved in long, costly and undignified court proceedings.

4.18 Staff

The general principles for efficient running of any organisation should guide staffing policy, local and expatriate alike, as well as staff attitudes towards people of whatever age attending the feeding programme:

— politeness
— fairness & consistency - no favouritism
— respect for personal integrity and ability to learn
— respect for privacy
— employment and wages based on technical merit and effort
— training opportunities

4.18.1 Construction staff

For skilled labour, ask your local DRC for contacts who can help you find what you need.

The local administration can find you unskilled labour.

The RRC will probably help arranging Food For Work.

4.18.2 Feeding Programme Staff

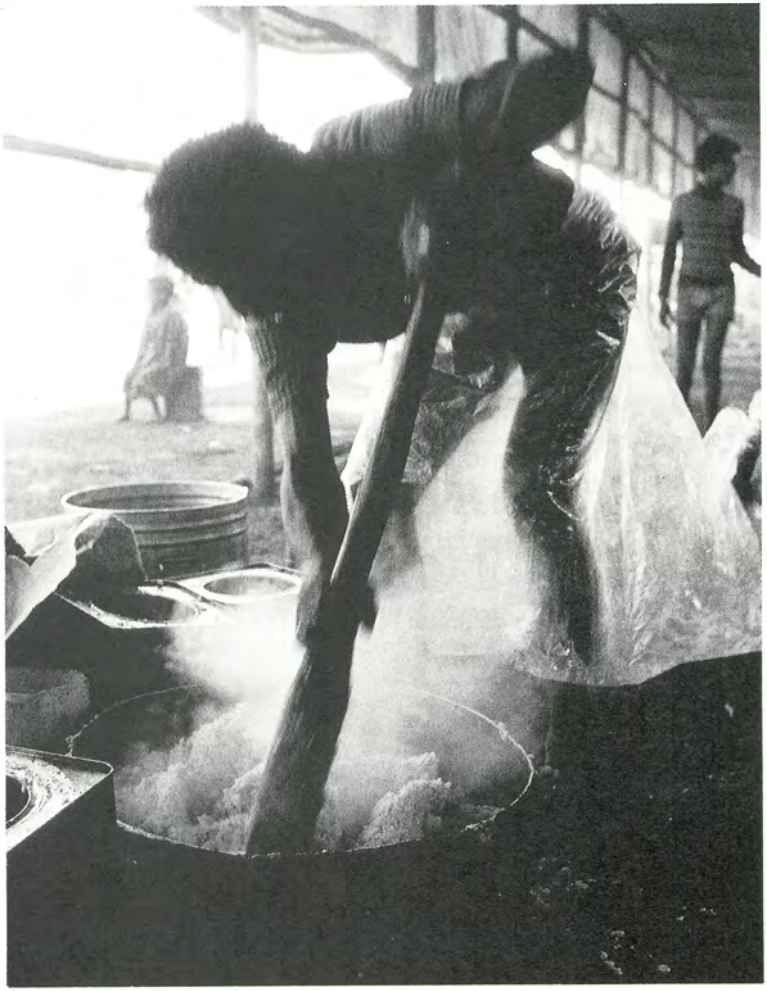
See 4.17 for labour rules and regulations.

Job	Suggested staff for 1000 live-in therapeutic	Pay-guide (E.$/month) May 1985
■ administrator	1	500-750
■ fixer		400+
■ nutrition field worker	4	400
■ supervisor of NFWs		500-700
■ nutritionist		expat
■ feeding auxiliary	20	50-100
■ medical auxiliary	5	100-200
■ health assistant	2	MOH + 10 pd
■ sanitarian	1	MOH + 10 pd
■ pharmacist		MOH + 10 pd
■ lab technician		MOH + 10 pd
■ nurse		MOH + 10 pd
■ medical doctor		MOH + 15 pd
■ food distributor	20	50-80
■ cooks, male: female	6:4	50-80
■ washing-up hand	4	50-80
■ kitchen hand	3	50-80
■ latrine guard/woodchopper	5	50-80
■ guard	3	70-80
■ driver	1	300 +
■ storekeeper	1	100 +
■ weighing and registration team member	3	100-200
■ maintenance worker	1	70-150
■ carpenter		100 +
■ interpreter		200 +

* This assumes intensive training of local staff to do all the routine work, leaving highly skilled staff and their counterparts to deal with difficult decisions & supervision.

4.18.2

Kitchen hands have been responsible for many innovations and improvements on feeding sites, not least retrieving plastic sack linings for aprons.
(Photo: Mike Wells)



Rates of pay for labourers

- casual labour — $2 per day
- contract labour — $3 per day
- food for work ** same as casual (formerly 3 kg grain per day
- kebele labourers — same as casual

NB The above is a guide: check local rates.

** Check that there are no donors' restrictions on food being used in this way.

Rates of pay for service workers

- ETCA operators — $10-20 per day
- hired truck drivers — $14 per diem
- hired assistants — $7 per diem

4.18.3 Interpreters

Try to use those skilled staff who speak English as interpreters, thus giving them the benefit of more close training with expatriates. Whatever the situation, don't have even the best interpreter doing the work of existing skilled staff.

4.18.4 Job descriptions

Tell each person employed:

- — the name of their job
- — the hours they will work
- — whether they will be expected to work longer in a crisis, with extra pay or not

Guns & rifles

Check on licensing and the overall position on carrying weapons with the local administration & security offices.

It is best to rule that only night-guards may carry them within the feeding programme site, and that their weapons are either removed from the site when they are not on duty, or they are stored with their firing-pins removed and locked up separately.

It is SCF policy never to carry firearms or armed persons in SCF vehicles.

4.18.5 Staff training

Administrators & nutrition field workers

These should be able to work independently: give them counterpart roles until they can.

High-school auxiliaries and health assistants

The following system worked very well in SCF Kobo and Bulbulo. Each had less than 1000 live-in feeders, and auxiliaries were assigned to specific areas, and therefore specific feeders.

Train local high-school graduates as auxiliaries and give them special responsibility for preliminary screening. They can be trained very quickly to recognise fever, dehydration, oedema, bad

diarrhoeas & coughs, and refer to the Out-Patient service for further investigation.

Use auxiliaries for help with all contact with people receiving cooked feeding. Assign each one as the general contact-person for a unit of 50-100 live-in feeders, or a unit of 250 better-nourished ones. When they get to know their group, they will be able to pick up problems, especially of a social or feeding nature, more quickly than you. They can be trained to keep notes and select people with problems of possible medical origin for examination during the regular medical rounds.

In small programmes, auxiliaries can make regular rounds of an allotted number of rows of feeders.

The work of these auxiliaries and the medical care of their feeders can be supervised by the Health Assistants seconded from MOH.

Spend time with the HAs standardising diagnoses and prescribing. If they are trained to do the routine medical work, you are free to check and supervise public health aspects of camp organisation with the MOH sanitarian as well as overall medical care. Pick 2 or 3 HAs to work as counterparts on general management matters.

In a very large programme, like SCF Korem, where feeders file in and out of halls by the thousand, auxiliaries can be stationed at the entrances or exits through which all feeders pass regularly. In order for these auxiliaries to do effective screening, there must be a passageway and an auxiliary for every 250-500 feeders. This enables them to have a good look at each feeder without holding up the whole queueing and feeding process.

Keep copies of:

- a reference book on refugee camp health care
- and one on medical care in tropical countries

available for consultation by your health staff. See references in 1.3.

4.19 Menus and recipes

See 4.3 for general principles and supply calculations.

You will need the following equipment for experimenting with small quantities of food for your recipes:

- dietary balance - letter scales are fine
- measuring cup or cylinder
- pots, spoons, saucepans etc.

4.19.1 High Energy Milk (HEM) -from ENI's guidelines

ITEM	PARTS BY VOLUME	WEIGHT FOR 100 CUPS at 300ml	KCALS /100g	KCALS Total	PROTEIN /100g	PROTEIN Total
DSM	6	2.3 kg	360	8280	30	690
Oil or Butteroil	2	1.8	900	16200	0	0
Sugar	1	1.4	400	5600	0	0
Premix :Water	1:4	24 l	0	0	0	0
TOTALS		**30 l**		**30080 kcals**		**690g**
PER PORTION of 300 ml				**301 kcals**		**7g**

ie. 1 kcal per ml, 54% fat kcals, 9% protein kcals

Method

1. Make fresh pre-mix every day, by:
   - — mixing the sugar and DSM (or CSM)
   - — then rubbing the oil into it with finger-tips or palms. The result is pre-mix

2. Mix one volume of pre-mix (Don't pack it down) with 4 volumes of boiling water, just before feeding time.

3. Serve as soon as possible after mixing, and as hot as possible.

4.19.2 High energy drink (HED) -SCF's recipe

This drink was devised to ensure maximum energy-intake and rehydration or safe drinking water at the same time. It is especially useful for children who need to catch up weight quickly.

ITEM	PARTS BY VOLUME	WEIGHT FOR 100 CUPS at 300ml	KCALS /100g	KCALS Total	PROTEIN /100g	PROTEIN Total
CSM or SWF or flour	2	2.5 kg	380	9500	18	450
DSM	1	1.1 kg	360	3960	30	300
Oil	1	2.2 kg	900	19800	0	
Sugar	0.5	1 kg	400	4000	0	
Premix :Water	1:2	20 l	0		0	
TOTALS		**30 l**		**37260 kcals**		**780g**
PER PORTION of 300 ml				**373 kcals**		**8g**

ie. 1.24 kcals, 54% fat kcals, 8% protein kcals

Method

1. Make fresh pre-mix every day, by:
   - — mixing the flour, DSM and sugar.
   - — then rubbing in the oil with the finger-tips or palms. This is the pre-mix.
2. Mix with a whisk, 1 volume of the pre-mix (don't pack it down) with 2 volumes of boiling water.
3. Serve immediately after mixing, as hot as possible.

In SCF Errer (4.3) intensive feeders got 2 portions, and special care feeders 4 portions, of HEM or HED, every day, in addition to 2 porridge servings.

NB 1 HED is more energy-dense than HEM.

NB 2 If you have no sugar, flavour the HED with a little salt, except for cases of oedema.

4.19.3 Porridges

The main idea of making a porridge for a feeding programme is to combine flour, or cracked grains, and oil into a paste with as little water as possible. The paste will need some flavouring, like salt. If you have some extra protein, like DSM, you can add that too.

Different flours absorb different amounts of water, so you will need to experiment with water quantities and taste, and then calculate the energy-density and protein content of the paste with the best consistency.

Here is an example of the SCF Errer porridge being cooked in April 1985:

SWF (Soya Wheat Flour) Porridge

ITEM	PARTS BY VOLUME	WEIGHT FOR 100 BOWLS at 250ml	KCALS /100g	KCALS Total	PROTEIN /100g	PROTEIN Total
SWF	8	9 kg	360	32400	20	1800g
Oil	1	1 kg	900	9000	0	0
Water	12	15 l	0		0	
TOTALS		25 l		41400 kcals		1800g
PER PORTION of 250 ml				414 kcals		18g
			ie. 1.65 kcals, 22% fat kcals, 17% protein kcals			

Method

1. Rub the flour (and DSM) and oil together with the finger-tips or palms.
2. Add the water and bring to the boil.
3. Add salt to local taste, and note how much it is.
4. When cool, pack 250 ml portions into bowls.

4.19.4 Breads, pancakes, kitta

Ask one of your programme cooks, or a cook at your hotel, or any housewife, how she would make a *kitta* with the ingredients you have. Watch, note quantities, choose the simplest recipe, multiply up the quantities, but check the results of the scaled-up recipe before going into production and placing more food orders.

4.20 Kitchen organisation

4.20.1 Stoves

See 4.9.2 for fuel considerations.

Make sure all fires and cooking are placed as far as possible from where people queue, sit etc.

4.20.1 Korem 1983
Kerosene-fired pressure stove heats a series of water drums on a heat tunnel. Fires of any kind should be situated far away from areas of general activity.
(Photo: Mike Wells)

4.20.2 Production line

Make kitchen procedures as streamlined a production line as possible. Ensure the folowing sequence at site planning stage:

— entrance for food stores, washed buckets etc.
— measuring
— pre-mixing
— water additions (water-boiling stoves)
— boiling and cooking
— baking
— exit for prepared food, and to washing-up

See 5.7

4.21 Stores and Stockkeeping

4.21.1 Stores & storage

Each feeding programme needs a main store building and a small kitchen store.

4.21.1

All food must be kept dry and secure as well as guarded. Make sure your store is big enough to hold some stock as well as your regular food needs. Any food that cannot be stored must be distributed promptly, before it rots or is stolen.
(Photo: Mike Wells)

Size: allow 2 cu.m per tonne, OR 12 sq.m floor space per 10 tonnes

A store must be:

- waterproof
- ventilated
- pestproof
- secure from thieves
- near admin, clinic & kitchen areas

Storage: sacks must be stored:

- away from walls (min. 40cm)
- OFF the ground (pallets, 10cm high) crosswise, two by two first in, first out—last in, last out

4.21.2 Stockkeeping

Hire and train at least one person at every site and every point of supply, for dealing with the paperwork connected with:

— transporting
— stores
— records of food and drug movements

Set up your stockkeeping and reporting system before you start feeding.

Keep a stock card for each item, and each size of each item.

Order form

SAVE THE CHILDREN		SUPPLIES ORDER
PROJECT	ORDER NO.	DATE
QUANTITY	DESCRIPTION AND PURPOSE	
REQUESTED BY	AUTHORISATION	

Example of a stock control card

ITEM:..... UNIT SIZE:.....

RE-ORDER LEVEL:.....

Date	To/From	In	Out	Stock	Initials

Set a re-order level for each item on the stock-card so that the storekeeper can help with ordering.

Check actual stock against the stock-card from time to time.

4.21.3 Ordering

See 4.8.2 on regular supplies.

Always give exact specifications for all items ordered.

BILL OF LADING

TO: NO:

DATE: FROM:

VEHICLE NO:

DESPATCHED			RECEIVED		
Commodity	Number of bags/ containers	Condition	Commodity	Number of bags/ containers	Condition

Warehouse	*Transporter*	*Consignee:*
Despatched: Date: Time: Warehouseman's signature and stamp:	I acknowledge that the supplies listed above have been received for transportation to the designated address. Carrier's signature:	I certify that all the items listed, unless otherwise noted, have been received. Consignee's signature: .....

From: *Food emergency manuel.* Rome. World Food Programme (new edition in preparation).

4.22 Planning summary

Start small, with expansion plans; DON'T raise expectations unnecessarily.

Give the local RRC and Drought Relief Committee a realistic idea of what you can do immediately, and what you might do later. This will make their work of allocating areas to different organisations easier and will help them to plan their own work and to take your special skills and needs into consideration.