CHAPTER 5
Organization of Food and Health Relief

The type of organization to implement this program will depend on the type of disaster, expected duration, resources and facilities, and on whether the area to be serviced is large, with the population scattered, or concentrated in a comparatively restricted area. A major consideration becomes the expected duration of relief, and the set-up required will differ according to whether:

1. Short-term relief is indicated before rehabilitation and reconstruction begin (total duration less than a few weeks), or
2. Long-term relief is needed in combination with rehabilitation and development measures (total duration several weeks to several months).

5.1. SHORT-TERM RELIEF

An efficient short-term relief operation is all that is required in most acute emergencies to support the population until rehabilitation and reconstruction work is initiated. Immediate assessment (initial rapid assessment) and provision of ready-to-serve meals and drinking water are simultaneous first steps. Depending on climate and daily temperature fluctuations, clothing, blankets, and shelter may have to be provided. To sustain life over days is the primary aim. Although air-drops of food are occasionally indicated, this method is costly and distribution is invariably unequal. Helicopters and aircraft are ideally suited for rapid personnel transfer, establishment of communications, and provision of emergency medical teams, equipment, and supplies in the event of traumatic disasters such as earthquakes or war injuries. Health priorities may change radically on the basis of initial assessment results.[1]

5.1.1. Logistics of Food Distribution. Immediate logistic support for food distribution should be initiated using water or ground transport even before the full extent of disaster is assessed. Traditional river boats or ox carts can reach food-short areas within days, often when air-drops take weeks or longer to organize and cannot in any case supply sufficient quantities to sustain devastated areas. Fleets of bicycles may have better access to some areas than trucks. Meanwhile, staff can be transferred by air if needed, to establish and organize the feeding program.

5.1.2. Feeding Kitchens. These should be established at central points. Emergency food should be pre-cooked during the early days and especially where the victims have lost the use of domestic implements. In these conditions, loaves of bread, puffed rice, and similar preparations are ideal for the first day or two. Drinking water should be made available. Demarcated lines (using rope or bamboo) help to channel

recipients to the serving area where food is dispensed. In the first day or two, it may be impossible to register recipients, but provision of feeding cards on which each meal may be checked off is an eventual necessity.

5.1.3. Personnel and Equipment. Personnel are drawn from the affected population to prepare food and to serve, with relief persons supervising the construction or arrangement of appropriate cook sheds, processing lines, and control of food supplies. For five kitchens each feeding about 2,000 persons daily (total 10,000 persons), the following staff may be required:

Category	Number
Supervisors	2
Record Keepers	2
Security/Police	2-4
Locally-hired cooks	5
Helpers	15
Laborers	15
Recorders	5

Kitchens and serving areas may be grouped around a single storage area. Adequate storage, maintenance of stock records, and recording of the number fed in each kitchen are important elements.

About four metric tons of a staple food item daily will feed about 10,000 people. In addition to the staple item, cooking oil, vegetables, salt, and fuel for cooking are essential needs. Additional foodstuffs such as tea, coffee, sugar, spices are psychologically useful but not essential. Even in these initial phases, milk or special foods for children can be dispensed as children pass the supply point. Palatability and food custom are frequently problems and serious consideration should be given to these factors.

The supervisor should be a civil official with authority to hire local people. He should receive refresher instruction on handling of food commodities, on what constitutes a balanced diet, and on sanitation and hygiene measures in the food cooking area.

Equipment for five kitchens, each serving 2,000 persons (for a total of 10,000) would include:

250-liter drums for water	10
50-75 liter cooking pots	20
Buckets (galvanized)	30
20-liter water kettles	10
Ladles (solid)	20
One-cup measures (soup, lentils)	30
500-ml measures (rice, gruel)	30
Measuring cups: 1 liter, 200 ml, and 300 ml	20

Large iron sheets (1x2m—if frying is required)	10
Large stove burners or supports for cooking on fires	20
Cutting knives	20
Wooden stirrers/spatulas	20
Large boards for cutting	10
Record/account books	20
Registration cards (family)	2,500
Petromax or other lanterns (and necessary fuel)	10
Utensils for use of staff—glasses, mugs, plates (as far as possible, recipients should provide their own)	
Living accommodations for non-local staff	
Rope, bamboo, wire, and tarpaulin, to construct cooking/serving area; registration desk; and roped-off channels for serving	
Skin markers	

5.1.4. Feeding Operation. While the organization is getting established and supplies limited, meals may be provided once daily. Within two-three days, two or preferably three meals should be provided. From the outset, children should eat three times daily, even if one of these meals consists only of a glass of milk or precooked food such as puffed rice or bread.

The entire kitchen feeding operation should be wound up within a week or two. If food relief is required beyond this period, this eventuality should be anticipated and a transition to ration provisions with home cooking should be made. In rare instances, feeding may have to continue for more than two weeks. Nevertheless, rehabilitation towards family life should begin as early as finance, transport, and supplies can be provided to stimulate normal, routine activities.

5.1.5. Health and Medical Organization. The main medical problems in acute catastrophes are usually traumatic in nature. Facilities for emergency surgery and treatment for shock, crush injuries, wounds, fractures, and burns may be required. Other emergency procedures that may be needed are resuscitation, temporary and life-preserving treatment followed by evacuation, and definitive treatment. Time is a crucial factor since any delay in treatment will lead to infected wounds and high death rates. Collapse of local medical services may necessitate rapid outside support in personnel and facilities for general surgery and, occasionally, for obstetrics. After the first week or ten days, the requirements are for general medical care and are the same as those needed for long-term relief. During this period there will be increasing need for preventive medicine and public health work. In effect, the health organization's needs—though limited—should be patterned on those used in the front lines of armed conflicts for trauma and emergency surgery. This Guide does not attempt to

explore this area in further detail.

The essential points to bear in mind are:

1. Existing medical and health institutions should be reinforced, rather than new ones established
2. Each working team should be small and mobile.
3. The composition and size of the medical relief team should be flexible and capable of reorganization into smaller or larger working units
4. Teams should have capacity to improvise.

5.2. LONG-TERM RELIEF

The relief effort may have to be 1) spread out over a wide area, with an extensive dispersal of the affected population (coupled with dispersed food and health network); or 2) centralized, with concentrations of population in a limited area (together with centralized food and health units).

In some disaster situations, although the relief activity will have an extended chronic phase, the initial disaster effects may be overwhelming, necessitating the type of set-up described for short-term relief. This circumstance may not apply in slow onset emergencies

5.2.1. Priorities in Long-Term Food Relief.

1. Adequate food to sustain life in all segments of the affected population This will help to prevent an influx of malnourished and seriously-ill individuals into special feeding programs.
2. Establishment of purchasing power amongst the labor force. This may take the form of a food-for-work program during the early stages and evolve into cash-pay rural work projects so that the market system is re-established. Rehabilitation should be initiated from the very outset with adequate food/cash to sustain increased calorie costs of manual labor.
3. Provision of full rations to vulnerable groups. Families in which primary bread winners are dead or missing should be considered especially vulnerable.
4. Special nutritional supplements beyond normal rations to vulnerable groups.
5. Therapeutic feeding and medical care for severe cases of malnutrition in all age groups If facilities are available, this service should be provided around-the-clock.

5.2.2. Priorities in Long-Term Health Relief.

1. Prevention and control of epidemics—a prime first goal, both for protection of disaster-affected people as well as of the surrounding population.
2. Life-saving, emergency therapy measures—often of immense psychological and political value in addition to their overall impact on lives saved.

3. Environmental sanitation measures—clean water, sewage control, clean living quarters, and protection from exposure are crucial to the prevention and control of most diseases.
4. Provision of therapy for significant diseases—both outpatient and hospitalized care
5. Minor illness clinics.

5.2.3. Some Key Factors in Organization.

1. A single controlling authority to supervise the entire food and health relief programs for a defined operational area.
2. Complete familiarity with existing systems and other facilities.
3. Review of experience of past disasters in the area and the relief efforts then undertaken.
4. Expression in quantitative forms of all relevant data from initial assessments.
5. Utilization of existing facilities and personnel with necessary adaptations—e.g., marketing and distribution system, transport, buildings and storage facilities, personnel from ongoing programs prior to disaster.
6. Anticipatory measures in slow onset emergencies—e.g., price stabilization, control of food movement, creation of purchasing power through works program, establishment of ration shops.
7. As possible and subject to similar conditions elsewhere in the affected region, relief services provided at several points should be uniform
8. Proper care of relief personnel

5.2.4. Dispersed Food and Health Network. In instances where the affected population is large and scattered, *existing personnel and resources should be identified and put to efficient use*

1. **At village level (population 1,000 to 2,000).** The personnel to be used are local leaders (elected or appointed), village-level workers, headmen, and so on. The job will be to collect data, following initial assessment, for monitoring.

   One or two persons will be required to cover each 1,000 population.

2. **A group of villages (population 10,000).** The personnel to be used are rural extension workers—in the field of agriculture, health and family planning, teachers, priests, tax collectors. The job will be to supervise data collection, to receive forms, and to check data; to monitor ration allotments to families; to refer cases of illness/malnutrition to appropriate health facility; to administer feeding programs.

   One person for a *specific task*, could cover anywhere from 1,000 to 10,000 population, depending on the task.

3. **A block of several villages (population about 50,000).** The per-

sonnel to be used are civil service officers, police, senior extension personnel in agriculture and health, revenue officials. The job will be to administer the ration system (issue of food grains and special foods, control and distribution of ration cards, maintenance of stocks and record books); to supervise and oversee all food- and health-related relief work in the subdivision; to collate and tabulate data; to provide information and guidance to workers in the periphery. These activities require supportive staff in the form of clerical personnel, local laborers, security staff.

One official will be able to take care of about 25 villages with an accumulated population of 30,000 to 50,000.

4. **At subdistrict level (population 100,000 or more).** The personnel to be used are civil officers working in the different departments, including technical and police personnel. Army officers could also be used.

   The job will be to serve as the primary administrative unit for all disaster relief, including food and health. Warehousing and transportation will be centered here. Storage capacity should be adequate for a month's supply of full rations (roughly 120 metric tons per 10,000 recipients), and include facilities for storage of special nutritious foods and expendable medical supplies. The subdistrict office will serve as the primary referral point. The senior government medical and health officer, a local person known to the leaders of the community, should participate in assessment, epidemic control, and training. Assessment, disease surveillance, nutritional evaluation, and feeding programs should be coordinated and supervised from this level.

5. **At the district level (population 0.5 to 3 million).** The District Commissioner or Collector will be the highest official responsible for all relief efforts He will be the base coordinating officer representing the NDRO and will deal with the provincial/national coordinator. Staff will be required to handle food supply logistics, coordination of data collection, information dissemination, transport, finance, personnel hiring and assignment, and overall health and nutrition administration. All assistance in the form of supplies and personnel would be coordinated at this level. The district hospital would be the major referral point for medical problems and would also undertake supervision, provide diagnostic facilities, and assess and interpret field medical and health problems.

5.2.4.1. Distribution of rations. Rations should be dispensed every two weeks on set days for different villages. Distribution in villages should take place at a cordoned area close to the depot but away from the open market place. The flow of recipients should be

regulated by narrow aisles allowing orderly recording and control (see Figure 7). Level measuring of rations with a standard tin can or scoop is a quick procedure. Each country should prepare a table showing weight equivalents of widely available and known standard volume measures (tins, scoops, bottles) for each type of grain, legume, and processed food supplement. However, the measure should be checked for accuracy of the weight or ration when new types of grain are used or each time new supplies arrive.

Carry sacks and bottles for oil should be brought by the recipients themselves. The distribution area should be supplied with one recorder and one measurer for each item dispensed. One or two laborers and a security officer can service 300-500 families per day, allowing time for stock-taking, record-keeping, and cleaning. Assistance may be needed periodically to oversee pest control in the stores and distribution areas.

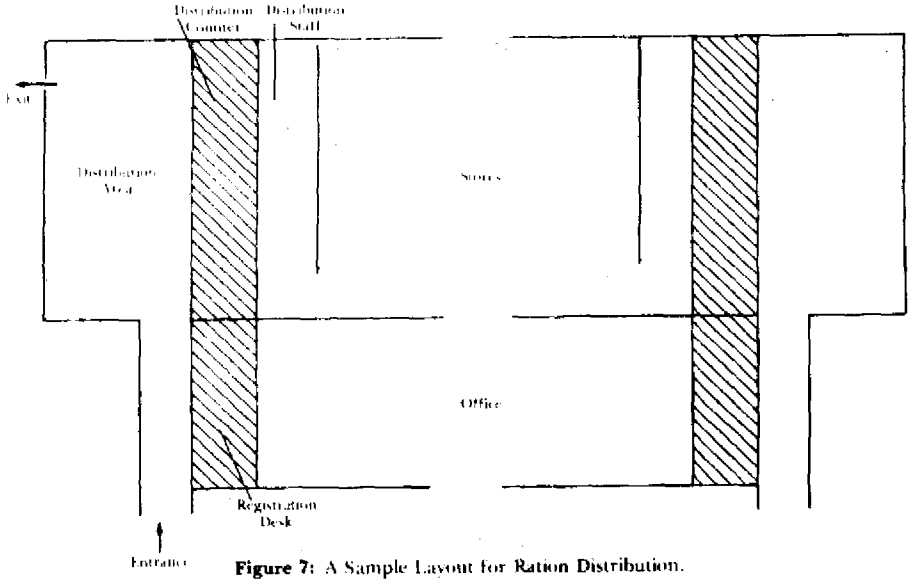

Figure 7: A Sample Layout for Ration Distribution.

Equipment needs include: grain sacks and twine, scales, kg. measures to dispense grains and volume measures for oil, lanterns, a portable loud-speaker, rope, bamboo, tarpaulins, tables and chairs, record books, ration cards, necessary pest-control items, and suitable information posters.

Distribution points can be used for registration as well as for data collection for initial nutritional assessment and subsequent monitor-

ing. In this case, the minimum essential equipment and necessary forms should be made available. At the time of family registration, those requiring special nutritional attention should be noted either through the issuance of specially-colored ration cards or by other appropriate indications. This should be done even if special nutrition programs have not yet begun. This procedure will ensure coverage of many who might go unnoticed or unselected when such programs actually begin. If immunization/vaccination becomes necessary for specific diseases, the same distribution points can be used.

5.2.4.2. **Feeding programs for vulnerable groups.** Programs should be designed to feed one supplementary meal per day to children under three or five years, as appropriate. If age cannot be ascertained, all children less than a set height (for three-year-olds, all children who can walk erect under a stick fixed at 10 cm; for five-year-olds, 110 cms) should be included. Pregnant and lactating mothers should also receive a supplementary meal.

Steps should be taken to prepare a simple manual of instructions and a one- or two-day course for teachers at the district or subdistrict level should provide information on selection of recipients, food preparation, and nutrition education.

About 200 persons is a satisfactory number to be managed in one center with one supervisor, two cooks, a recorder, and a few voluntary helpers. Attendance should be recorded on a registration card kept by the recipient or, where feasible, by the feeding center. Wherever possible, a weight record for children should be made at the start and at intervals during the program.

Equipment required is minimal: two large cooking pots, measuring cups (1 liter, 200 cc, 500 cc), stirrers, record book, and registration cards. Fuel may be a substantial problem—local supply or money from the village could be raised for purchase. Sack storage of the food will be adequate if supplies are sent every two weeks from the supply depot. Traditional means are ample for transport. The teacher (or other worker at this level) should file reports every two weeks on the number fed.

A sample layout for a Supplementary Feeding Unit is given in Figure 8.

5.2.4.3. **Health relief.** Where rural health infrastructure is not extensive, workers at the village level should receive a full day's instruction on the diagnosis and management of common disorders, along with simple printed instructions for care of diarrhea, cough, fever, skin infections, malaria, and, preferably, vitamin A deficiency. The treatment of patients should be stopped if perceptible improvement is not seen within two days. Such patients should be sent to clinics

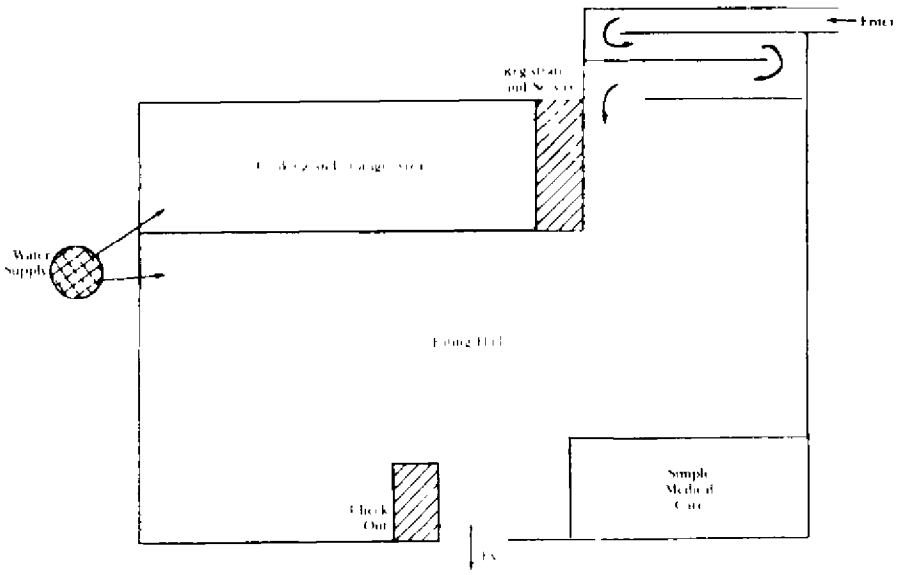

Figure 8. A Sample Layout for Supplementary Feeding Unit

run by health auxiliaries. The health auxiliaries can operate a clinic/dispensary serving a group of surrounding villages. They should visit the villages regularly to inspect the participants of the feeding programs and to take appropriate action, as required. The clinics can undertake necessary immunizations and the most urgent curative services, as well as the evaluation of nutritional progress. Vaccination status, body weight measurement, and special programs (such as administration of oral dose vitamin A) can be recorded on the child's attendance card. A record of body weight taken at intervals is a useful tool for monitoring as well as for nutrition education.[12] In Figure 9, the WHO model weight chart is given. This weight card model is on extensive trial in several countries. It contains the weight curve of healthy children living under good conditions. If the country using the chart has got its own norms, they may replace the curve in the chart. Nearly 97% of healthy reference children have weights above the lower line in Figure 9. The upper line represents the 50th percentile. In using the weight chart, emphasis should not be placed on the position of a single weight measurement in relation to the curves, but rather on regular monthly weight-gain. A monthly rising line represents a healthy child and a straight or falling line should prompt concern. When taken, the weight should be recorded at the point of the line corresponding to the weight (rounded out to a multiple of 250 g.) in the center of the relevant box for age (expressed in months).

If nutritional conditions worsen, an increasing number of children will require nutritional therapy. The clinics should have facilities to dispense nutritious foods to those in need and, if necessary, to retain children in the clinic for supervised feeding. All staff support for these additional activities should be provided through careful selection of local volunteers

Referral to district hospitals should be reserved for cases requiring special care or extended procedures. To confirm diagnoses and as back-up support, the district staff should assist with mobile teams, whether or not these can be provided with laboratory support. Such assistance is especially important during outbreaks of common infectious diseases.

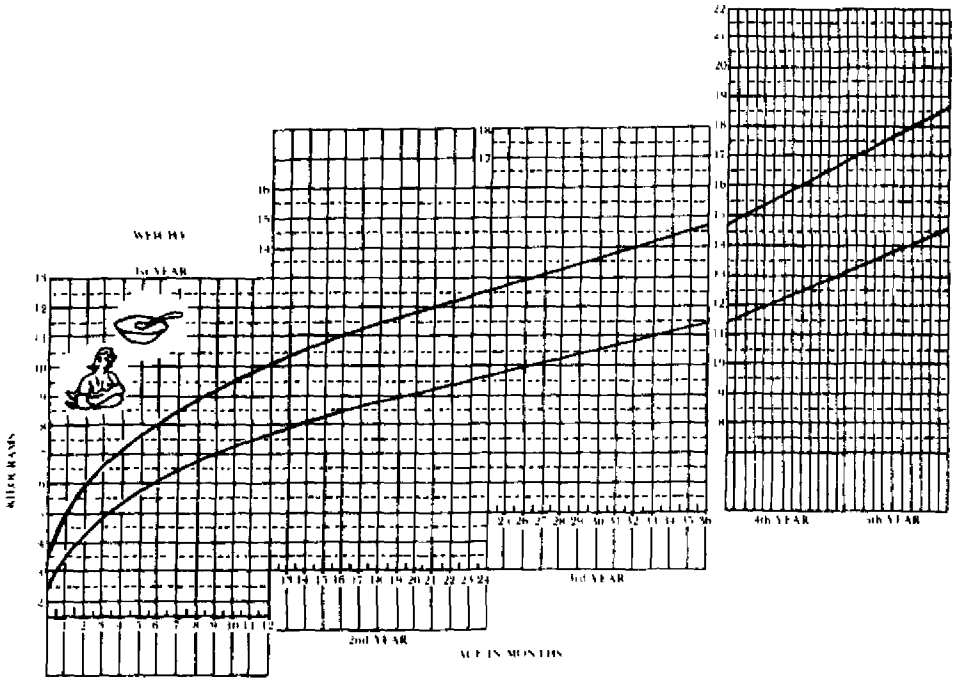

Figure 9: WHO Model Weight Chart

5.2.4.4. Administration, training, and logistics. At the policy level, the decisions to be made are: amount of food rations, selection criteria for nutrition programs, personnel allocation, and lines of responsibility. Administrative decisions must be backed up with necessary resources, supplies, and logistic support. Food, medicine, and other supplies must flow through established channels with clearly defined feedback routes so as to accommodate unforeseen needs.

Local staff training is of two types—refresher training of previously trained personnel and on-job training of new recruits. All local training should be conducted at district or sub-district levels. Refresher training should comprise short courses on specific job responsibilities, such as rehydration techniques, mass treatment of malaria, wound evaluation, diagnosis of malnutrition, prevention of diseases, surveillance.

The job training of new recruits should be strictly limited to training in a single or closely-related function: e.g., vaccination, nutrition, supplementation, assessment, injection of medicines, feeding sick children, preparing food, tabulating data. Supervision and periodic check-ups are necessary. Simply written guidelines, prepared centrally, should be distributed to each class of recruited workers.

Success depends on coordination of all activities by the District Coordinator. Liaison should be maintained among all levels, starting with the indigenous leadership. Mechanisms that allow the evolution of policy through open dialogue will foster a smoothly functioning operation. Rapid rehabilitation and restoration of normal life is the goal.

5.2.5. **Centralized Relief Organization.** A sample organization is given below (Figure 10). This model is designed for a population of 100,000, concentrated in one area. The essential aspects are flexibility and small size of the operational units, which have been geared for a specific task.

The medical and public health coordinator directs all activities connected with health and nutrition relief. The post should be held by a senior person with management and administrative experience in the health field. He may, if necessary, be provided consultative services from a medical advisor with broad experience in past emergencies.

The suggested number of units and personnel that may be needed are given in Table 3. Staff needs and the number of units indicated for different types of activity are broadly based on the expected work load. Ideally, work should begin with a smaller number and be built up as relief activities intensify.

Since personnel nomenclature may vary in different countries, the following explanations are provided:

Nurse—an individual with three or more years' nursing training
Nurse's aid—an individual with one year's nursing training
Vaccinators, Malaria workers } In some instances, these represent multi-purpose field workers.

Health Auxiliary—same training as nurse's aid, but with greater prevention-oriented experience.

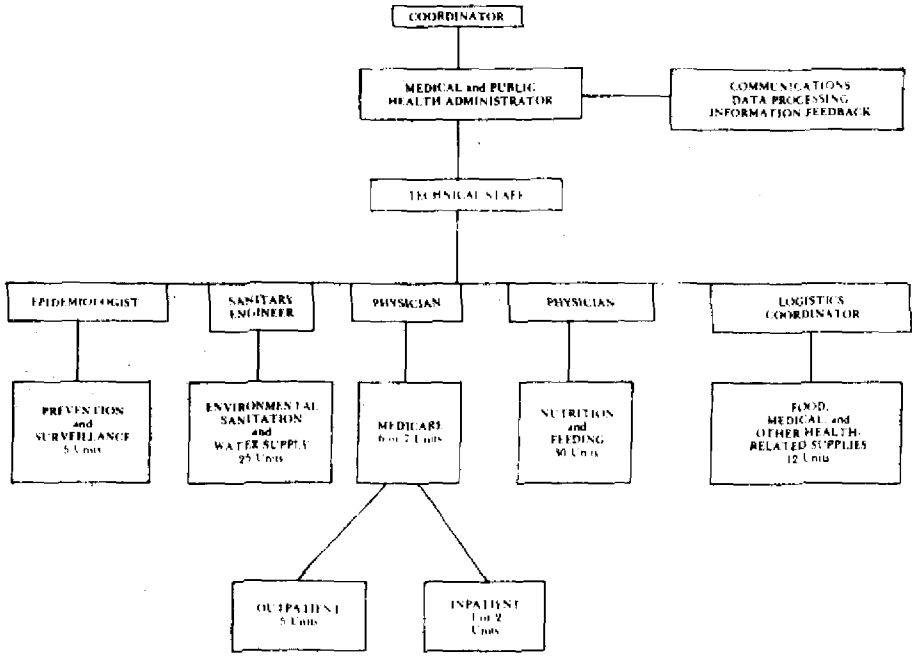

Figure 10: Model for Centralized Relief Organization.

5.2.5.1. Food and nutrition activities.

1. Ration distribution: The same physical facilities, organization, and working pattern described on preceding pages can be followed.
2. Supplementary feeding program: The same type of physical facilities, organization, and working pattern described on pages 56–59 are needed. However, there are a few differences. Simple curative treatment must be provided in the clinic and not in the feeding area. Exceptions to this rule may be necessary if, for example, the clinic is far removed. However, preventive health programs can be instituted at the feeding center. The number that has to be fed will be much larger, increasing to an upper limit of 2,000 per center.

   Staff requirements to feed 2,000 recipients would include: 1 cook, 3 helpers/servers, 1 recorder, 1 medical auxiliary, and 1 security guard. Equipment needs are those listed for a feeding kitchen (see pages 52–53). Soap should be provided in the washing area. In the absence of suitable buildings, tarpaulin covers may be used for cooking and serving areas and, in some cases, for the eating area as well. Walls constructed of bamboo mats or other effective barriers should be used to enclose the feeding area.

3. Nutrition therapy centers—estimated to cover up to 150 children (under five years) each: Every effort should be made to keep the number below 100. In a given population of 100,000, nearly 15,000 will be children under five years old, and about 10% of these (or about 1,500) may require this facility. Therefore, about ten such centers per 100,000 population may be needed

Nutrition care could be provided as a relatively simple addition to the supplementary feeding centers. There is also practicality in having this service close to feeding centers. Two types of units are required—day-care nutrition therapy centers and nutrition therapy wards. Shelters that use tents or existing buildings for a minimum of 150 children each will be required for the centers. For the wards, a minimum area of $4m^2$/child, with total space for 20-25 patients, will be needed Tarpaulins and mats for flooring and local materials for beds (e.g., charpoys) are preferable. Smaller adjacent shelters are required according to the following guidelines: for storage of supplies—$20m^2$; for a cooking area—20-$30m^2$; and for appropriate staff housing, with lanterns, bedding, mosquito nets, clothes lockers. Drinking water, a bathing area, and latrines for staff and patients are among other needs

If trained personnel are lacking and the staff do not have living accommodations at the site, the activities must be limited to day-care nutrition therapy only Equipment needs: 4 pots, 1 griddle, stove and fuel, 4 buckets, 4 stirrers, 4 measuring cups, 100 feeding cups with spoons, 20 nasogastric tubes, sufficient number of large-size glass/plastic syringes. Also, registration and treatment books, weight charts, registration/attendance cards, pencils/pens/paper.

In many circumstances, the nutrition therapy ward may be attached to a bed-equipped medical-care unit, providing physician coverage, nursing, minimum laboratory facilities, and a wider pharmacy back-up.

Ideally, each one of the above activities should put itself "out-of-business"—working from the bottom up and closing down when food rations are no longer needed and rehabilitation is virtually complete. It is assumed that the affected population would have by then returned to their homes and resumed normal activities.

TABLE III: Suggested

(The number of personnel is given for unit. The strengh of a unit and the

Prevention and Surveillance Unit		**Environmental Sanitation and Water Supply Unit**		**Outpatient**	**Medicare**
Total: 5 units		Total: 25 units		Total: 5 units	
Nutritionist	1	**Type 1**		Physician	1
Trained Nurse	3	**Engineering Service**		Intern	3
Vaccinator	2	**Unit** (Total 5)		Nurse	5
Malaria Worker	1	Engineer / Mechanic	1	Nurse's Aid	10
		Helper	2	Compounder	2
				Clerk	1
		Type 2			
		Field Operation			
		Unit (Total 10)			
		Sanitarian	2		
		Health Auxilliary	2		
		Helper	2		
		Type 3			
		General Sanitation			
		Unit (Total 10)			
		Sanitarian	4		
		Health Auxiliary	4		
		Helper	2		
		No. of Vehicles			
		Needed depends on many factors —			
		Rough Requirements			
		Jeeps/Land Rovers	5		
		Trucks (4 ton)	1		
		Trucks (1 ton)	2		
		With necessary staff			

Personnel for Different Services

number of units can be adjusted or reduced according to needs and facilities)

Units

In-patient

Total: 1 or 2 units

Physician	1
Intern	3
Nurse	4
Nurse's Aid	8
Clerk	1
Compounder	1
Lab Asst.	1
Cook	2
Helper	4

Nutrition Care and Feeding Units

Total: 30 units

Type 1 Supplementary Feeding Unit (Total 10)

Supervisor	1
Cook	2
Helper	4
Security	2
Clerk	2

Type 2 Nutrition Therapy Day Care (Total 10)

Supervisor	2
Nurse's Aid	4
Cook	1
Helper (to feed 150/day)	4

Type 3 Nutrition Therapy Indoor (Total 10)

Intern	2
Nurse	6

(beds 20-25)

Types 2 and 3 will have 4 physicians for total 20 units

Food, Medical and Other Health Related Supplies

Total: 12 units

Type 1 Food Supply Unit (Total 10)

Supervisor	1
Clerk	3
Dispenser	1
Helper	1
Security	1

Medical Supply Unit (Total 1)

Store Keeper	1
Helper	1

Other Supplies (Total 1)

Store Keeper	1
Helper	1

5.2.5.2. Health and medical care activities. For efficient utilization of staff and facilities, health and medical care should be provided adjacent to and in close coordination with nutrition care.

1. The team that carried out the initial assessment should be assigned to work under the medical and public health coordinator in the following activities:
   - –Vaccination/inoculation of registrants.
   - –Recording data on family or child registration cards, and provision of weekly summaries.
   - –Searching out children requiring nutrition therapy.
   - –Nutrition surveillance—a random sample should be identified for periodic monitoring.
   - –Epidemic surveillance—suspected cases should be immediately traced, diagnostic procedures initiated, and isolation enforced where appropriate.

2. **An Outpatient Medical Unit.** This unit should have a capacity of 500-600 visits per day and should be established in proximity to the nutrition center. Delegation of responsibility to staff will free the medical officer to see difficult cases and handle medical decisions at a policy level. Arriving patients would be interviewed by trained nurses, interns, or well-trained nurse's aids and directed to stations for treatment of the most troublesome common complaints. Each station line should be limited to one or two treatment procedures or medicines; thus, untrained personnel can be rapidly brought in to fill these jobs. (See sample layout in Figure 11.) Close supervision and checking in the first days and ready availability of a doctor for problem cases will combine to make this a highly efficient system for care of common ailments.

   For problem cases, the intern/physician should write out treatment orders on a slip of paper to be taken by the patient to the pharmacy area where appropriate medicines or injections would be given and directions explained.

   Records of diagnoses and medicines administered should be kept, mainly to control drug movements.

   Whether or not to levy a small token fee for drugs—as a means of reducing demand and overusage—is a question to be decided by local authorities. A hard line will tend to have good results in conservation of drugs as well as in time saved.

   Layout of the clinic is crucial to efficient work. Examining areas must be airy and well lighted. One or two enclosed examining rooms are needed for special procedures and for examinations requiring disrobing. Each "disease station" needs an appropriate treatment area.

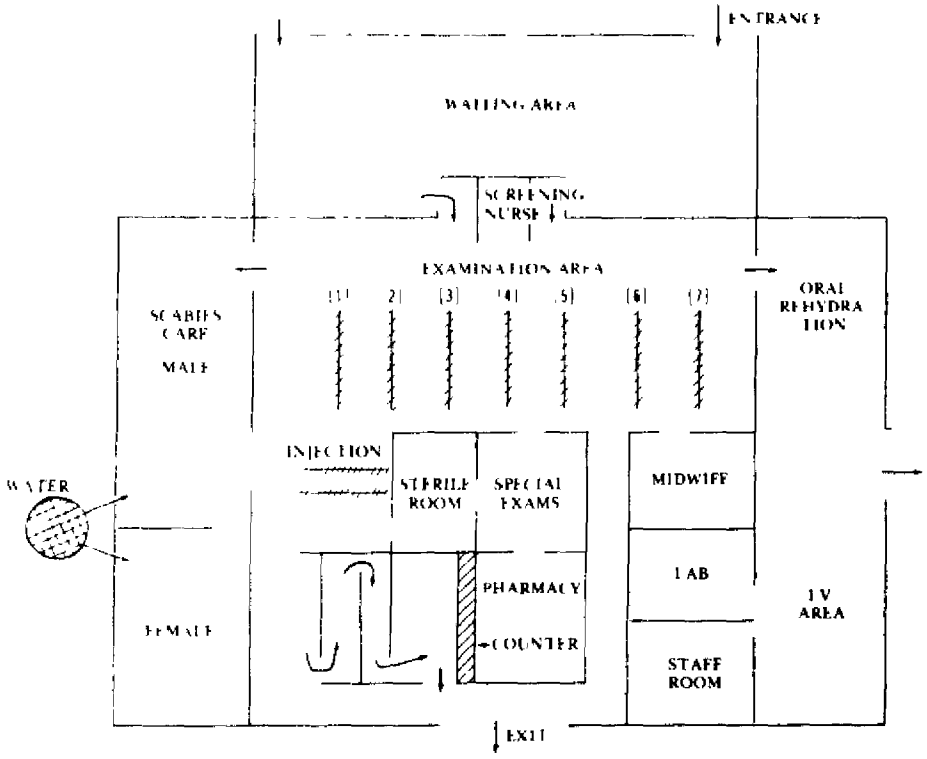

Figure 11: A Sample Layout for Outpatient Medical Unit

Every effort should be made to provide treatment on an ambulatory basis. This unit should be running effectively prior to the establishment of in-patient care. Efficient policy dictates referral of serious diseases (e.g., meningitis, tetanus, heart failure, surgical cases) to established hospitals.

3 **In-Patient Care.** The size and nature of activities depend heavily on manpower, finance, the type of problems encountered, and the availability of alternate services. A field surgical unit for acute traumatic emergencies (earthquakes, wars, large urban fires) is best organized by the army.

Ordinarily, in-patient care will be heavily oriented to childhood disease and malnutrition. Facility allocation will be roughly on a 2:1 basis for children and adults. Separation of sexes is necessary for adults. Children are best cared for in a large open ward facilitating observation and nursing care. Some sort of locally-made bed and a raised floor with cement facing are needed to facilitate cleaning. Water for washing should be available at several places throughout the ward and strong efforts should be

made to enforce handwashing with soap by all staff between contacts with patients. Further isolation procedures often require more effort than they are worth, except in the case of clearly contagious diseases with droplet spread. The cost of transporting patients suffering from contagious diseases to a large external hospital is well spent—both for individual prognosis as well as for the importance of removing infectious sources from a highly concentrated susceptible population.

Patients should be admitted preferably with an attendant (e.g., a relative) who can undertake a major portion of the patient's care Three meals a day from the family's ration stocks should be provided for attendants. Nutrition education should be given to mothers For functional efficiency, similar diagnoses may be grouped, although separate wards are not advised.

NOTES TO CHAPTER 5

[11]The 1970 cyclone in what was then East Pakistan claimed over 250,000 lives and left 4-5 million homeless. Extensive medical teams with field hospitals, vaccines, and tons of medicines were airlifted to the area—all were underemployed. As the area survey demonstrated, the weak, sick, and infirm were washed away—only the strongest survived and relatively few of those required any medical assistance. All survivors, however, required food, clothing, and shelter.

[12]Although this feature, at first sight, may appear to be extravagant, it will provide a meaningful measure of rehabilitation and may result in lasting benefits to the community. Introduction of a child weight record (each child must receive a card of some sort in order to receive his daily ration) can be the starting point for establishing this procedure as a permanent program of the health center. Measurement and recording are simple tasks. Relief auxiliaries can easily train volunteers from the community to carry on this procedure.