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THE SOMALIA OPERATION:
REPORT ON FEEDING AND NUTRITION
IN THE REFUGEE CAMPS

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A. The Mission

From 24 March to 6 April a mission, composed of two members of INTERTECT (a disaster operations specialist/planner and a nutritionist/public health specialist) and one staff member of UNHCR, visited Somalia to review the emergency operations.

The Somalia case study is part of a comprehensive study on emergency preparedness and response capabilities of UNHCR as outlined in PCS/411 of 26 July 1979 and the terms of reference in PCS/551 dated 23 November 1979. The present brief report on feeding and nutrition is excerpted from the larger study.

B. Itinerary

The itinerary was planned so that the mission could visit representative refugee settlements in all areas. Visits were arranged to approximately half of all the refugee camps now open. The camps visited were in three of the four regions where concentrations of refugees reside; it was felt that a representative sample of the range of problems was viewed by the mission.

Specifically, the mission visited the following camps (in chronological order):

1. Shabelli region: Corioli One
Corioli Two
Corioli Three
2. Hargeisa region: Saba'ad
Dam
Agabar
3. Gedo region: Halba One
Halba Two
Ali Matin
Al Waq (a transit camp).

C. Methodology

In each camp the team divided to conduct individual investigations into each of the various assigned topics, generally following a checklist developed for this mission. For the purposes of the study of feeding and nutrition, the camp administrator and chief medical officer were interviewed in each camp. Food stores and medical facilities were visited in every case and individual households were surveyed at random to examine the extent of food supplies on hand and the general nutritional status of the population, especially the young children. Detailed observations were recorded by the team members.

The review included an examination of the logistical and procurement records relating to the feeding programmes, conversations with the NRO regional coordinators in each region visited, discussions with the USAID and U.S. Embassy personnel involved in the relief operation, and discussions with the UNHCR Branch and Field Officers in charge of logistics and feeding programme coordination.

D. Feeding and nutrition

1. Basic food rations - In the majority of the camps visited, it was observed that basic food rations were partially or completely exhausted. Food stores were completely empty at Agabar, Halba I and Halba II camps, but for the last few sacks of food left over from previous distributions. In fact, in the Halba camps, food destined for the supplementary feeding programs was observed being diverted for basic ration distribution, in order to partially offset the critical situation which had developed. In most other camps, supplies on hand in the storerooms were low in relation to the size of the camp populations for which they were intended. In several cases, especially in the Hargeisa Region, further food distributions had been effectively suspended by the camp officials since the amounts of some individual food items available per family from the supplies on hand fell under the daily basic ration set by the National Refuge Office.

It would appear that the GOS has almost completely exhausted its food reserves so that the NRO central storerooms are all but empty. Attempts by the UNHCR/Somalia staff person in charge of logistics and the members of the INTERTECT team to visit the NRO stores have not been successful.

It is evident that although the relief operation has been able to "muddle through" up until the present time, the current situation appears too critical for this to continue without serious ramifications. Any disruption of scheduled deliveries to Somalia or from the regional stores to the camps themselves (for reasons such as impassability of roads during the forthcoming rainy season, shortages of fuel, or problems of maintenance or repair of trucks), or a sudden influx of new refugees due to increased military action or drought in the region, could cause the marginal situation to become totally unmanageable.

It is important to note that the basic food rations destined for the refugees are not only lacking in quantity at the present time, but if delivered according to NRO guidelines would be also lacking in quality. Two or more different rations are planned; Table 1 illustrates two ration lists currently in use.

Tables 2 and 3 give details of the nutrient composition of the two food rations and the percentage adequation of the recommended daily allowances (RDA) for different subgroups of the population, respectively.

From these data, the following conclusions can be drawn with regard to the quantity and quality of the average basic food ration, with respect to the different subgroups of the refugee population.

Table 1: Basic food ration lists in use in Shabelli and Hargeisa Regions, as set by the National Refugee Office of the Government of Somalia, 1980.

Region	SHABELLI	HARGEISA
Food item	Dry weight ration/person/day (g.)	
POLISHED RICE	75	100
WHOLE MAIZE (or SORGHUM)	250	200
FORTIFIED DRIED SKIMMED MILK (DSM)	50	50
WHITE SUGAR	40	60
EDIBLE OIL	40	60
BEEF (weekly ration)	250	-
TEA	3	-
WHEAT FLOUR	-	60

Table 2: Nutrient composition of basic food rations in use in Shabelli and Hargeisa Regions, as set by the National Refugee Office of the Government of Somalia, 1980.*

Region	SHABELLI	HARGEISA	AVERAGE
Nutrient			
Calories	1,949	2,249	2,099
Protein (g.)	55.4	51.6	53.5
Vitamin A (I.U.)	2,875	2,800	2,838
Vitamin B: Niacin (mg.)	8.4	6.8	7.6
Thiamine (mg.)	1.20	1.17	1.19
Riboflavin (mg.)	1.23	1.11	1.17
Vitamin C (mg.)	8.5	8.5	8.5
Iron (mg.)	8.7	8.0	8.4
Calcium (mg.)	669	671	670

*Source: Platt, 1962.

Table 3: Percentage adequation of the recommended daily allowances for population subgroups of average basic food rations in use in Shabelli and Hargeisa Regions, 1980.*

Nutrient	Calories	Protein	Vit.A	Niacin	Thiamine	Ribo.	Vit.C	Iron	Calcium
Subgroup	Percentage adequation: 100% means fully adequate.								
Children 1-3 yrs.	154	334	341	84	238	146	43	84	134
7-9 yrs.	96	214	213	52	132	90	43	84	134
Male 13-15 yrs.	72	145	117	40	99	69	28	47	96
Female 13-15 yrs.	84	173	117	46	119	78	35	35	96
Adult male	70	145	113	38	99	65	28	93	134
Adult female	95	184	113	52	132	90	28	30	134
Pregnant female	82	141	113	45	119	78	17	30	56
Lactating female	76	116	71	42	108	69	17	30	56

*Source: Passmore, et.al., 1974.

a. Taken on an individual basis, the food quantity of the ration, i.e. its caloric content, is adequate for young children but inadequate for teenagers, adult males and pregnant and lactating females. However, by distributing food by family, averaging takes care of some of these difficulties. The deficiency of calories for pregnant and lactating females is normally resolved through supplementary feeding programmes, yet these are only operated in a few camps.

b. As is common in emergency food rations, excessive emphasis has been placed upon the delivery of protein in the diet. However, nearly half the protein is derived from maize, and nearly half from DSM. Should either of these food sources be removed from the ration due to shortages, the RDA would not be met for two of the vulnerable groups, the pregnant and lactating females.

c. The vitamin A content of the ration is adequate for all age groups and sexes, except lactating women. The vitamin A is almost entirely supplied by DSM, so that should this food item become scarce, the ration would become virtually free of vitamin A. Thus the importance of supplementary feeding programmes is again highlighted.

d. The basic ration is not adequate in niacin (a member of the vitamin B group), for all age groups and sexes, due to dietary reliance on maize or sorghum. Deficiency over an extended period will lead to the appearance of pellagra in the population.

e. Thiamine (vitamin B₁) and Riboflavin (vitamin B₂) are more adequately supplied in the basic ration. However, the vast majority of the thiamine (as is the niacin) is delivered by the maize component of the ration, and if this food item becomes scarce, symptoms of beriberi would become widespread amongst camp populations.

f. The vitamin C content of the basic food rations is wholly inadequate, and is supplied in its entirety from DSM. Fresh fruit and vegetables are not supplied in the basic ration nor in the existing supplementary feeding programmes.

g. The iron content of the basic camp rations is inadequate, especially for the female population whose needs are always greater than those of the male population. Supplementary feeding programs could resolve this deficiency for pregnant and lactating women, but the remainder of the female population of the camps can be expected to become severely anemic if this dietary regime is maintained over long periods.

h. The adequacy of calcium in the basic ration is satisfactory for all groups except pregnant and lactating women, due to the dietary contribution of DSM. Supplementary feeding programs therefore are needed to prevent growth deficiencies in infants and young children.

In conclusion, the basic ration utilized by the NRO at the present time is seriously deficient in both quantity and quality. There exists an urgent need to revise the basic ration in order to improve the nutritional shortcomings.

It is important to note that the serious quantity and quality deficiencies in the refugee diet most adversely affect the vulnerable groups: children and pregnant and lactating women. In the particular case of Somalia, the majority of the camp population happens to be women and children, so that the deficiencies described actually affect the majority of the people currently living in the refugee camps.

Factors contributing to the problem - The following factors were identified as contributing to the problems in basic food rations.

a. In general, food shipments to Somalia have not kept pace with needs. The GOS has all but exhausted its stocks of food staples (sorghum is no longer available within the country), and the World Food Program (WFP) supplies have not been sufficient to meet the food shortfall. In some cases donors have not delivered according to their pledges. It has been argued that the refugee population has increased suddenly. The INTERTECT team would

argue, however, that the refugee population has been growing at a steady rate over the last 12 months, and that even if the predictions of total camp population were incorrect even by as much as 10%, this is no explanation for the extreme shortages observed. The mission feels that inadequate monitoring and forecasting of needs is the major contributing factor to the shortage.

b. The shortage of heavy trucks and of fuel already cited are also contributing factors but do not explain the shortages on hand.

c. As mentioned earlier, the distribution system does not permit advance planning. Although the records permit storekeepers to account for movements in and out of the stores, there is little scope for advance prediction of when further deliveries will be required, either at the regional level or in the camps.

d. The absence of adequate supplementary feeding programmes means that there is no mechanism by which inequities in the distribution of basic rations can be smoothed out. The vulnerable groups are therefore not satisfactorily protected against nutritional deficiencies.

e. The time period between basic ration distributions in the camps is often as great as 30 days. There is extensive experience in other refugee situations (see UNHCR, 1980) that strongly suggests that such long periods between distributions are inadvisable. Under such circumstances an "accordion effect" often develops, in which the food is used liberally by the family when it is first supplied, leading to shortages later in the month. The effect becomes more and more exaggerated each month since the family becomes progressively more desperate by the time each distribution becomes due. The ideal time period between distributions is 7 to 10 days.

f. In certain cases, unintentional inequities in the distribution of basic food rations to families were observed in the camps, caused by poor record keeping and the inadequate family registration. It is essential that some kind of card registration mechanism be adopted for all the camps in order not only to keep track of food distributions but also to aid in the collection of statistics and the maintenance of health and nutritional surveillance data.

g. Food losses were observed in certain camp storerooms, due to accidental spillage, and to deficiencies in the food storage system. Some edible oil was lost when the cans in which it was transported were smashed; some wheat flour was observed to have been transported in simple burlap sacks which were water damaged at some point in their journey. Losses also occurred in certain storerooms due to attack by vermin and birds, and some sacks were damaged by being placed directly on the ground.

Interventions for the solution of problems relating to basic food rations - A wide variety of interventions will be required to resolve the problems surrounding the delivery of adequate basic food rations to the refugee camp populations. The following measures cover the actions that are necessary:

a. A comprehensive system of surveillance should be instituted throughout the NRO operation to monitor food needs throughout the distribution hierarchy: at the camps, in the regional storerooms, and in Somalia as a whole. A system is required that permits the continuous monitoring of stocks in hand in combination with the advance ordering of supplies before they become critically low at all levels.

b. Superior advance supply planning and population prediction by WFP in collaboration with the donor countries is essential in order to maintain adequate food supplies in the country. It would seem imperative that negotiations be initiated immediately to resolve the immediate food quantity crisis, followed by tighter control over the on-going food supply situation through more comprehensive planning.

c. At the refugee camp level, a family registration system should be instituted, through which local distributions can be monitored and controlled, and inequities removed from the system. Adequate systems tested through practical experience in the field are described in the literature (Chapter 4, de Ville de Goyet, et.al., 1978; Manual No. 10, UNHCR, 1980).

d. More trucks will be required for transportation throughout the distribution hierarchy, and the storage of independent supplies of fuel and materials for maintenance and repair of the trucks would free the transportation system of dependence of the vagaries of the local market.

e. The rationalization of the nutritional composition of the refugee diet by a public health nutritionist should be undertaken promptly in order to resolve deficiencies of food quality.

f. Adequate supplementary feeding programmes should be instituted in the camps in order to smooth out inequities in the individual nutritional requirements between regular and vulnerable groups in the camp population (see Section II D 2 following).

g. Food storage facilities and practices should be upgraded in order to minimize food losses. Adequate systems have been described in the literature (see Chapter 8, de Ville de Goyet, et.al., 1978).

Lessons learned and implications for emergency preparedness - Normal roles for HCR in basic rations are:

- To assist the host government in assessing needs;
- To formulate appeals for food;
- To coordinate donations;
- To provide logistics support when food arrives.

Of these, HCR has no standardized system for needs assessment, especially in formulating calorie and nutrient content requirements, nor are staff members cognizant of the basic issues in nutrition; the formulation of appeals is imprecise due to the lack of knowledge about local nutritional and feeding habits; the ability to coordinate donations is limited by lack of monitoring capability; and logistics support is limited to purchasing vehicles.

An additional role which UNHCR should play is advising the Government on record keeping and monitoring of food supplies but this cannot be accomplished at present due to a lack of experienced or trained personnel and model systems.

If HCR is to be effective in each of these roles, it must take appropriate action to rectify these deficiencies. While many of these tasks can be delegated to WFP or other implementing agencies, HCR must retain the capability of making credible evaluations of the contractors' performance.

2. Supplementary feeding programs - In the majority of the camps visited by the Mission, supplementary feeding programs were either deficient or non-existent.

The NRO medical officer for the Corioli camps informed the Mission that supplementary foods were being distributed in the form of a dry ration once every two weeks to approximately 10% of the camp population. However, the figure of 10% of the camp had apparently been arbitrarily set, whereas the proportion of persons falling into the generally accepted classification of vulnerable groups clearly exceeded that figure. The medical officer estimated that vulnerable groups comprised a minimum of 50% of the camp populations at Corioli I, II and III. It was not possible to verify when the last supplementary food distribution had taken place.

Supplementary feeding was non-existent at Saba'ad and Dam camps, in Hargeisa region. A programme has been organized along conventional lines, i.e. the distribution of a cooked ration several times per day directly to vulnerable groups, at Agabar camp under the supervision of medical personnel working with the Catholic Institute for International Relations (CIIR). However, feeding had been suspended since all food supplies were exhausted.

In the Gedo region, the Mission observed a supplementary feeding activity (though not a complete programme) only at Halba II camp, under the supervision of the medical personnel working with Medecins sans Frontieres (MSF). The Oxfam Feeding Kit was being utilized by the team. No other supplementary feeding programs were observed.

The supplementary foods used differed. Table 4 illustrates 2 rations currently used and their nutritional composition.

Table 4: Supplementary food ration lists with their respective nutrient compositions in use in Corioli and Halba camps, Somalia, 1980.*

Region	SHABELLI	GEDO
Camp	Corioli	Halba
Form of ration	Dry ration	Cooked ration
Frequency	Bulk distribution every 15 days	Twice per day
Food item	Dry weight ration/person/day (g.)	
FORTIFIED DRIED SKIMMED MILK (DSM)	40	80
CORN-SOYA-MILK (CSM)	80	-
WHITE SUGAR	20	-
EDIBLE OIL	15	-
Nutrient		
Calories	662	286
Protein (g.)	30.4	28.8
Vitamin A (I.U.)	3360	4000
Vitamin B: Niacin (mg.)	6.8	0.9
Thiamine (mg.)	0.82	0.36
Riboflavin (mg.)	1.25	1.22
Vitamin C (mg.)	38.8	13.6
Iron (mg.)	14.8	0.8
Calcium (mg.)	1304	1008

*Source: Platt, 1962.

From the above data, the following broad conclusions may be drawn.

a. Where supplementary feeding programmes are conducted, there is a great disparity between the supplementation delivered. Dry rations are being distributed by the NRO, whereas the more appropriate cooked ration is being supplied only by those voluntary agencies with the facilities, equipment and expertise to carry out the operation on a regular basis.

b. The NRO ration list is nutritionally better balanced due to the utilization of a variety of foodstuffs, than the voluntary agencies' regime using DSM alone. Milk alone does not constitute a supplementary feeding programme. For the purposes of supplementary feeding, a food combination supplying more calories, niacin and iron is required.

Factors contributing to the problem - The following factors contribute to the problems surrounding supplementary feeding.

a. There would appear to be a poor understanding on the part of the GOS and UNHCR as to the function of supplementary feeding for vulnerable groups. This lack of understanding has led to the lack of emphasis on the establishment of such feeding programmes. The NRO has not clearly differentiated the terms "supplementary feeding" (designed to strengthen the diets of vulnerable groups), "intensive feeding" (designed to recuperate seriously malnourished individuals) and "therapeutic feeding" (a term not currently used in public health work).

b. There is a lack of adequate personnel with refugee camp experience with which to mount an appropriate supplementary feeding programme for the camps. This is surprising given that personnel experienced in the feeding operations in the camps set up in Somalia to deal with the 1974-75 drought should still be found within the national population. Conditions in the present refugee camps are so similar that for all practical purposes the same personnel could be employed to undertake the same work as was carried out with reasonable competence in the earlier camps (see Abbas, 1976).

c. The same factors that have resulted in general shortages of basic rations (see Section II D 1) influence the supply of supplementary foods.

Interventions for the solution of problems relating to supplementary feeding - The following actions should be taken to establish and/or improve supplementary feeding programmes (interventions concerned with the delivery of basic food rations also apply):

a. One or more food agencies with extensive experience in programmes of supplementary feeding should be contracted to undertake such programmes under the supervision and coordination of UNHCR. Agencies with such experience which should be contacted include:

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- Concern, Eire;
 - Bread for the World, West Germany;
 - Care, U.S.A.;
 - Catholic Relief Services, U.S.A.;
 - Church World Service, U.S.A.

Adequate systems tested through practical experience in the field are described in the literature (Chapter 4, de Ville de Goyet, 1978; Manual No. 11, UNHCR, 1980; Chapter 5, PAG, 1977).

b. The involvement of one or more Somali nationals with experience in feeding from the 1974-75 relief camps should be encouraged. In this way, the supplementary feeding programme can be tailored to fit in well with local norms and customs.

c. In all cases the supplementary feeding programme should be implemented in close collaboration with established programmes of preventive health in the camps (see Section II E 2 in the present report), and in coordination with improved NRO food distribution systems.

Lessons learned and implications for emergency preparedness - Supplementary feeding programmes are an activity that is always required in a refugee camp environment. It serves to protect the vulnerable groups but also is an ideal programme for delivery of other services such as preventive health and medical programmes, health surveillance activities, public health education, and monitoring of the basic ration distribution. Normally HCR will contract a voluntary agency or the host government to provide this service. As important as these programme are, HCR personnel must be conversant with the basic issues involved in setting up and running such a programme. In order to be properly prepared for selecting the appropriate agency and seeing that adequate programmes are established, HCR should take the following steps:

a. Provide the Branch Office with literature on the establishment and operation of these programmes. Suitable references for non-medical and -nutrition personnel are available.

b. Establish close linkages with agencies that are recognized specialists in this type of programme and contract them at early stages of the emergency to provide advice on setting up the programmes.

c. Develop model standards which can be used or adapted to guide agencies in setting up programmes. (The standards developed in Thailand (UNHCR, 1980) provide a current example.)

d. Establish a closer link to WFP and WHO emergency operations personnel who are specifically concerned with this activity.

e. Develop a mechanism whereby a nutritionist/feeding programme specialist can be seconded quickly to the Branch Office to assist in determining the scope of the required programme. (At present this is left to WFP, but often they do not assign an experienced specialist. Thus HCR should have the capability to provide this expertise if WFP cannot.)

In order to serve as a back-up feeding system capable of smoothing out temporary shortages and insuring that the vulnerable groups will always have adequate food, the supplementary feeding programme should receive separate stocks of food. If possible, independent supplies should be established. The best way this can be effectively accomplished is to utilize the "food agencies" that have their own sources of supply and their own logistics. HCR should develop standing agreements with these groups to provide stand-by services in emergencies.

3. Intensive feeding programmes - Intensive feeding programmes were not operating in any of the refugee camps visited by the Mission. In particular, no such program had been established at the Al Waq transit camp in Gedo Region, and it is doubtful that there exists such a programme at either of the other 2 transit camps (one in Hiran, one in Hargeisa) in the country.

The following reasons for the absence of intensive feeding programmes were identified.

a. There is no understanding of the function of intensive feeding as part of a refugee relief operation. In particular the special importance of transit (reception) camps as the appropriate location for intensive feeding, medical examination and immunization of incoming refugee arrivals before transfer to established camps is not appreciated.

b. Similarly, a lack of adequate, trained personnel exists for the implementation of an appropriate intensive feeding program in the transit camps. Due to the delicate and time-consuming nature of the work involved, it is essential that early emphasis be placed on the establishment of personnel selection and training schemes so that adequate numbers of workers are available to initiate these programmes as soon as possible.

c. The procurement and logistical factors that have resulted in general shortages of basic rations and supplementary foods apply to intensive feeding operations.

Interventions for the solution of problems relating to intensive feeding - The measures for the establishment of intensive feeding programs in the transit camps are:

a. A food agency with extensive experience in programs of intensive feeding should be contracted to undertake such programs in the transit camps under the supervision and coordination of UNHCR. An agency with suitable field experience is Catholic Relief Services, U.S.A. Adequate delivery systems tested through practical experience in the field are described in the literature (Chapter 5, de Ville de Goyet, 1978; Manual No. 13, UNHCR, 1980; Chapter 6, PAC, 1977). (Note: the term "therapeutic feeding" appears in the older literature in place of the more modern term "intensive feeding".)

b. Under no circumstances should intensive feeding be instituted on a regular basis in the standard refugee camps, but only in transit (reception) camps with the objective of recuperating individuals suffering from serious malnutrition. Therefore the logistical planning and implementation necessary to supply food, equipment and personnel for intensive feeding need only be directed at 3 locations.

Lessons learned and implications for emergency preparedness - HCR Branch Offices can be made more conversant with this type of programme by provision of the available, non-technical literature as well as a guide to the basic issues. Information regarding all types of feeding programmes and the conditions when they are required should be a part of UNHCR staff training.

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