

6 THE LOCAL PURCHASE CONCEPT OF FOOD AID

6.1 Introduction

It is advisable to point out at the beginning the position of the local purchase concept within disaster relief. Superficially, it seems to require a long-term implementation in order to reveal its various advantages. But it has to be noticed that some factors (e.g. a fast availability of the aid commodities and their conformity to specific demand), which are important not least in disasters, are most likely to be ensured by local purchasing. Additionally, it is frequently found in practice that despite being explicitly aimed at, food aid in disasters is not terminated after some weeks, but is continued for months and years which then, in its long-term implementation, opens up additional advantages of the local purchase concept.

The withdrawal from surplus-determined food aid and the preference for a demand-oriented assistance should be a self-evident attitude of all organizations involved in such a field. The reliance on local food sources should be given priority over the employment of foreign, possibly unfamiliar foods (IFEKWUNIGWE 1976, p. 12). The most important question is not how to utilize an agricultural surplus of industrialized countries as food aid, but rather which requirements for aid programmes are deduced from the specific nature of food gaps in developing countries (METZ 1980, p. 235).

Food aid, generally, means a fight against the symptoms, which, under certain circumstances, is necessary (see chapter 2). To tackle the causes of a food shortage thoroughly, however, requires long-term measures in many segments of a society, e.g.:

- political participation of all population strata
- equitable distribution of land, income and property

- increase of employment and income
- increase of subsistence production.

6.2 Advantages of local purchase

The reasons favouring local purchase (instead of shipments of surplus commodities from abroad) as a means of food aid, are manifold:

- An inappropriate food supply in developing countries most often exist in the form of a deficit demand gap, i.e. the effective food demand is insufficient compared to the production. Local purchase, in that it increases effective demand, influences and increases the food production of the selling country (desirably the disaster-affected country itself), and not, as happens with conventional food aid, the agricultural production of the donor countries:
- When food shipments of substantial amounts appear on the market of the recipient country, this suddenly increased supply quite often causes a rapid price decrease of such products. With prices sinking beneath production costs, production will be reduced by local farmers. Food aid by local purchase, on the other hand, helps to avoid this so-called "disincentive effect" and instead it stimulates production, employment and income increases. In order to achieve the best result, one should always try to purchase in the disaster stricken country or region itself, and thus be able to take full advantage of the above mentioned positive effects at the place of need.
- It also makes sense to purchase food items locally because of the expenditure. The costs for the whole national economy of surplus production (costs of production, storage, acquisition etc.) will be increased by long-distance transportation in such a way, that it will usually be advantageous to procure food items within the affected country or one of its neighbours.¹⁾
- The concept of local purchase extends the number of donor countries. Also countries that are, financially speaking, able to join in emergency assistance, but do not produce any surplus, can be integrated in the support of needy countries.

1) One of the numerous examples: the Fed. Rep. of Germany in 1978 delivered 2,500 t of rice, valued at 3.478 Mio DM, to Niger. By selling the rice on the local market, about 2.04 Mio DM could be realized, which was used for the local purchase of about 5,173 t of sorghum. With a direct finance transfer of approx. 3.5 Mio DM, 60 % more sorghum could have been obtained (BEISSNER et al. 1981, p. 112).

- With the omission of long transport distances the term of delivery can be substantially reduced, which favourably fits to the disaster relief's requirements of flexibility and promptness.
- Local purchase is likely to ensure that only food items corresponding to the local food habits will be employed. The familiarity with such foods and the knowledge of their preparation and consumption will prevent problems about the acceptance of such foods and, thus, speed up the reestablishment of normal living conditions.
- Imported food items, which are not always superior to local products are able, because of their specific image, to provoke lasting alterations in the local food habits. The detrimental consequences of such demand alterations for the whole economy are well-known and should always be avoided.
- Finally, it can be said that the concept of local purchase is not only a useful method of combating the consequences of a food gap. Additionally, it provides a good chance to consider and even eliminate the underlying causes of food shortages.

6.3 Conditions and possibilities of food aid by local purchase

The elementary condition of the concept of local purchase is the political willingness of donor, as well as recipient countries. Aid organizations have to consent not only to provide (surplus) commodities, but also financial means. The call for local purchasing of foods in developing countries was included in the resolutions of the first and second World Conference on Trade in 1964 and in 1968. Meanwhile, the European Economic Community also negotiated a food aid agreement which, since 1981, permits the purchase of items of food aid within developing countries (BMZ 1981, p. 118). But the portion of the means spent on local purchase is still quite small; how small is shown by same figures of the World Food Programme.

Table 4: Application of the local purchase concept in the food aid of the World Food Programme (WFP)

year	Mio US \$ / year	portion of the WFP total budget; in %
1963 - 72	0.6	0.4 (1972)
1976	12.0	4.2
1977	9.3	2.6
1978	15.0	3.1

The reasons for the meagre interest of donors are based on political and economic considerations. Surplus-producing and exporting countries prefer to regard the interests of their farmer-lobby and agricultural policy than to provide financial means for local purchasing. They fear to lose, or not be able to extend, the markets which have been previously established by conventional food aid. But recipient countries can also be averse to the concept of local purchase, since it could then give the impression that the country itself is provided with a food surplus or with a corresponding agricultural potential. Countries, whose low-price-policy depends on external food aid, will always try to avoid this impression, in order not to be forced to concede priority to the increase of agriculture production.

Local purchase can, of course, only be applied in regions where surpluses are available. Otherwise, the increased demand - induced by the purchase - in normal or limited supply situations could boost the prices and, by this, create an additional shortage for the poor population strata.

The best purchase date is after the harvest. At this time supply is abundant and there is the highest risk of a cutback of producerprices. Thus, an additional "purchase-demand" will stabilize prices and, by this, support the farmers directly. A purchase at later times, can usually

only be done through intermediary agents who are provided with storage facilities. The usually substantial profit will then fall to traders, not to producers; but depending on the organizational structure and size of the trade institution, the increased demand can sometimes reach the producers level. This means that the purchase at the farm, or at small-scale cooperatives has the strongest production-increasing effect. To have sold the crop at reasonable prices will certainly be an incentive for the next decision to produce these items, and this is additionally supported by purchase-contracts over fixed amounts. This form of purchase can only be realized in long-term development-programmes, when market structures are familiar and the utilization of the foods is planned beforehand.

For donor countries and aid organizations it seems to be much easier to undertake the purchase by wholesale, i.e. at large scale cooperatives or governmental trade institutions. It is advantageous that these institutions are familiar to the buyer and the needed amounts are at hand (they do not have to be collected by numerous small purchases). But, it is impossible to know to what extent such purchases will support the producers, and if any effect on employment and income is achieved.

Church organizations, through their numerous partners in the recipient countries, have a good chance to be well-informed on this matter. Negotiations do not have to be done with the big traders in the developing country, as is generally the case for governments and international organizations. Church organizations, rather, will be able to trade directly with producers who are accessible through the tight net of relationships, woven between the many communities and health centers throughout the country. Gathering information is, in this way, facilitated; nevertheless, in every new case it must be carefully investigated to find out which possibilities are given and which consequences have to be expected.

6.4 Local purchase in disaster relief

Depending on the type of disaster, standing crops or food stocks are hardly or only regionally destroyed (chapters 2 and 2.3). Selling this available food will enable the farmers to recover by their own efforts. Food shipments, with their price-lowering effect, do not leave this opportunity for the farmers. Purchasing at fair prices, which leaves a margin enabling them to produce in the following vegetation period, is the best way to support their efforts of self-help (OXFAM 1978; MOORE LAPPÉ et al. 1980, p. 118).

To find a suitable partner for the purchase of the foods can be a problem when under time-pressure, which is quite likely in disasters. In this case it is advantageous to have already gathered all available information about existing food stocks and purchase opportunities, for example in connection with other development projects. This is particularly useful in areas where natural disasters occur quite regularly (see chapter 2). With the redistribution of food within a country/region it must be ensured that it will not provoke shortage or inflation in the (previously) surplus region, by transferring too big an amount of foods (IFEKWUNIGWE 1976, p. 12).

The long-term objective of the local purchase concept, the increase of food production is, of course, not attainable in disaster relief. A lasting increase of production is unlikely with sporadic and often non-recurring purchase and instead, requires conditions such as purchase contracts, recurring purchases, buying at the proper date etc.. Only in long-term development projects, although also in emergencies such as refugee camps and famines, will these pre-requisites be fulfilled.

Nevertheless local purchase, with its advantages (saving time and transportation expenditure, familiar foods, avoidance of the "disincentive effect", support of farmers for further production) over conventional food aid, is a concept which should be applied in disaster relief.

7 FAO EARLY WARNING SYSTEM

7.1 Objective and operation

Two of the most important pre-requisites of effective disaster relief are:

- the announcement of an approaching food shortage as early as possible
- the fast qualitative and quantitative assessment of the aid commodities needed.

While only a few events which can be followed by food shortages can not be foreseen (e.g. earthquakes, floods, storms), most food gaps - e.g. by drought-induced crop failures - are visible quite long before harvest time¹⁾.

The FAO Global Information and Early Warning System on Food and Agriculture can help to detect early signs of crop failures and to forward this information to the governments concerned or potential aid organizations. In compiling and giving information, the FAO Early Warning System co-operates intimately with the World Food Programme and also with non-governmental aid organizations. The data supply information on:

- weather (amount of rainfall rainfall-deficit)
- expected crop yields
- livestock
- stocks
- price-movements on local markets
- shipments of food aid
- nutritional condition of people
- etc.

1) Poor crop yields are not the sole cause of famines; also factors such as a high degree of market-dependency for foods (i.e. low subsistence production), an insufficient income, or even combinations of various factors play important roles in the genesis of famines.

As far as available, all information relevant to a country's supply of food staples will be published in the monthly "Food Outlook". This publication is obtainable by inquiring at the FAO. The data, collected by the FAO in its monthly "Special Report - Foodcrops and Shortages" is only accessible to a limited circle of readers.

7.2 Benefits of well-functioning early warning systems

Early warning systems which operate in a perfect way reveal several appreciable effects:

- The observation of the distinct steps of disaster formation gives clues to the underlying causes, which are needed in an effective prophylaxis.
- Assistance will be more likely to be in time, at the proper location and in an appropriate form.
- Adjustments during the intervention are more likely to be controlled.
- Significant evaluations will be possible.

In this way, an early warning system would not only help to design aid measures in accordance with the given situation, but it could also, in the long run, make itself superfluous by analysing and combating the causes of food shortages. Information on the existence of a National Disaster Preparedness Plan and/or a National Disaster Relief Authority in some developing countries is given in the appendix, table 12.

7.3 Dubiousness of extensive data

The most accurate prediction can be made if the country is covered with a tight net of observation points, and if information is steadily passed on. However, it has to be considered that every collection of data runs the risk

of abuse. On this account too, some governments are rather suspicious of the establishment of observation systems, that are capable of gathering - and perhaps, abusing - detailed information on elementary spheres of a country. These reservations are understandable, if one considers the following:

- The dependence on food was and still is abused as a political weapon.
- The world market for wheat is controlled by only 6 companies (KRIEG 1981, p. 64).
- Information on presumable crop yields can induce drastic price movements for food staples on the stock exchange and, consequently, influence their world market prices.

Even the patronage of an international organization such as the FAO, which is considered to be neutral, gives no guarantee for an absolutely neutral use of the data.

An appropriate means to counter food shortages in times of disaster is the establishment of national food stocks. Their maximum benefit would be the prevention of any food shortage. With their commodities being in accordance with the local needs, and being quickly available, the emergency security stocks, beside the above mentioned ultimate objective, help to mitigate the severity of a crisis and allow an early start to emergency assistance.

National security stocks could take advantage of an existing national early warning system (chapter 7) by accommodating the amount of the cereal reserves in accordance with current circumstances (e.g. presumed crop yields, prices, the food supply situation). The FAO "Food Security Assistance Scheme", established in 1976, tries to give special support in the arrangement and organization of such security stocks. The main obstacles are a lack of qualified personnel as well as the funding of the necessary measures. At its seventy-fifth session in November 1979 and also later, the UN/FAO Committee on Food Aid Policies and Programmes emphasized the importance of a new international cereal agreement for the establishment of adequate food reserves in developing countries and confirmed the important role of FAO assistance in worldwide efforts to achieve food security (BMZ 1981a, p. 53 ff.).

Up to the present, there are only a few publications which inform on the current situation of national food reserves and their size. The following are available:

- Sahel countries: FAO (1981)
- Islamic countries: FAO (1981)
- Africa (case-studies in Tanzania, Gambia, Niger): BEISSNER et al. (1981).

Table 5: Countries working at the set-up of food security reserves (according to FAO 1979, 1981, 1981a; BEISSNER et al. 1981)

Africa		Asia	Near and Middle East
Algeria	Mozambique	Bangladesh	Afghanistan
Burundi	Niger	Indonesia	Iran
Cameroon	Rwanda	Laos	Iraq
Cape Verde	Senegal	Malaysia	Jordan
Chad	Somalia	Philippines	Lebanon
Comoro Isl.	Sudan	Singapore	Libya
Ethiopia	Swaziland	Thailand	Pakistan
Gambia	Tanzania		Saudi Arabia
Ghana	Tunisia		Syria
Mali	Uganda	Caribbean	Turkey
Mauritania	Upper		Yemen
Morocco	Volta	Haiti	

APPENDIX

Table 6: Commodity purchases of the WFP (including International Emergency Food Reserve) for the period 1 January to 30 April, 1978 (according to WFP 1978)

1 Purchase and recipient countries are identical

Country	Commodity	Quantity (t)	Value (\$)
<u>1.1 Africa</u>			
Botswana	Pulses	489	139,400
Burundi	Dried fish	72	89,200
	Pulses	54	15,900
Ethiopia	Maize	2,000	256,000
Lesotho	Maize meal	200	26,400
Madagascar	Rice	60	14,300
Malawi	Maize meal	430	45,800
	Pulses	10	1,800
	Dried fish	36	21,800
Mali	Dried fish	20	31,600
Sambia	Maize meal	1,483	266,200
	Maize	212	15,500
	Dried fish	102	60,300
	Veget. oil	85	98,200
Sudan	Dura	8,670	1,381,350
Syria	Pulses	189	58,600
Upper Volta	Rice	500	166,700
<u>1.2 Asia</u>			
Afghanistan	Pulses	195	92,400
Nepal	Wheat flour	100	26,000
	Veget. oil	20	23,100
	Pulses	25	10,500
Pakistan	Pulses	40	8,750
Philippines	Rice	1,482	425,335
Thailand	Rice	5,400	1,193,100
	Veget. oil	270	263,600
<u>1.3 Latin America</u>			
Bolivia	Rice	750	199,470
<u>1.4 Caribbean</u> (bilateral purchase from Germany, Fed. Rep.)			
Haiti	Sorghum	1,814	300,000
	Pulses	453	230,000
	Rice	227	90,000

Table 6 (contd.):

2 Purchased and employed in a developing country

Country of origin	Commodity	Quantity (t)	Value (\$)	Recipient country
<u>2.1 Africa</u>				
Botswana	Maize	2,961.6	332,600	Lesotho
Botswana	Maize	2,520	283,000	Mozambique
<u>2.2 Asia</u>				
Pakistan	Rice	1,689	439,080	Djibouti
Pakistan	Rice	375	97,500	Liberia
Pakistan	Rice	375	97,500	Cyprus
Pakistan	Rice	86	22,400	Guinea
Pakistan	Rice	100	26,000	Ivory Coast
Pakistan	Rice	71	18,500	Mali
Pakistan	Rice	761	197,900	Angola
Pakistan	Rice	495	128,700	Zaire
(from bilateral donors)				
Thailand (Norway)	Rice	4,500	1,080,900	Laos
Thailand (Denmark)	Rice	3,640	874,300	Laos
Thailand (Asian Christian Organization)	Rice	40	9,600	Laos

Table 7: Recommended intakes of nutrients (WHO 1974)

Age	Body weight kg	Energy		Pro- tein A	Vit. D	Thia- mine	Ribo- flavine	Nia- cin	Folic acid	Vit. B ₁₂	Vit. C	Calcium g	Iron mg	
		Kcal	MJ											
Children														
- 1	7.3	820	3.4	14	300	10.0	0.3	0.5	5.4	60	0.3	20	0.5-0.6	5-10
1- 3	13.4	1,360	5.7	16	250	10.0	0.5	0.8	9.0	100	0.9	20	0.4-0.5	5-10
4- 6	20.2	1,830	7.6	20	300	10.0	0.7	1.1	12.1	100	1.5	20	0.4-0.5	5-10
7- 9	28.1	2,190	9.2	25	400	2.5	0.9	1.3	14.5	100	1.5	20	0.4-0.5	5-10
Male adolescents														
10-12	36.9	2,600	10.9	30	575	2.5	1.0	1.6	17.2	100	2.0	20	0.6-0.7	5-10
13-15	51.3	2,900	12.1	37	725	2.5	1.2	1.7	19.1	200	2.0	30	0.6-0.7	9-18
16-19	62.9	3,070	12.8	38	750	2.5	1.2	1.8	20.3	200	2.0	30	0.5-0.6	5- 9
Female adolescents														
10-12	38.0	2,350	9.8	29	575	2.5	0.9	1.4	15.5	100	2.0	20	0.6-0.7	5-10
13-15	49.9	2,490	10.4	31	725	2.5	1.0	1.5	16.4	200	2.0	30	0.6-0.7	12-24
16-19	54.4	2,310	9.7	30	750	2.5	0.9	1.4	15.2	200	2.0	30	0.5-0.6	14-28
Adult man														
(moderately active)	65.0	3,000	12.6	37	750	2.5	1.2	1.8	19.8	200	2.0	30	0.4-0.5	5- 9
Adult woman														
(moderately active)	55.0	2,200	9.2	29	750	2.5	0.9	1.3	14.5	200	2.0	30	0.4-0.5	14-28
Pregnancy (later half)		+ 350	+1.5	38	750	10.0	+0.1	+0.2	+2.3	400	3.0	30	1.0-1.2	
Lactation (first 6 months)		+ 550	+2.3	46	1,200	10.0	+0.2	+0.4	+3.7	300	2.5	30	1.0-1.2	

Table 8: Energy expenditure of a 65-kg reference man,
distributed over 24 hours and effect of occupation
(WHO 1974)

Distribution of activity	Light activity		Moderately active		Very active		Exceptionally active	
	Kcal	MJ	Kcal	MJ	Kcal	MJ	Kcal	MJ
In bed (8 h)	500	2.1	500	2.1	500	2.1	500	2.1
At work (8 h)	1 100	4.6	1 400	5.8	1 900	8.0	2 400	10.0
Nonoccupational activities (8 h)	700- 1 500	3.0- 6.3	700- 1 500	3.0- 6.3	700- 1 500	3.0- 6.3	700- 1 500	3.0- 6.3
Range of energy expenditure (24 h)	2 300- 3 100	9.7- 13.0	2 600- 3 400	10.9- 14.2	3 100- 3 900	13.0- 16.3	3 600- 4 400	15.1- 18.4
Mean (24 h)	2700	11.3	3000	12.5	3500	14.6	4000	16.7
Mean (per kg of body weight)	42	0.17	46	0.19	54	0.23	62	0.26

Table 9: Energy expenditure of a 55-kg reference woman,
distributed over 24 hours and effect of occupation
(WHO 1974)

Distribution of activity	Light activity		Moderately active		Very active		Exceptionally active	
	Kcal	MJ	Kcal	MJ	Kcal	MJ	Kcal	MJ
In bed (8 h)	420	1.8	420	1.8	420	1.8	420	1.8
At work (8 h)	800	3.3	1000	4.2	1400	5.9	1800	7.5
Nonoccupational activities (8 h)	580- 980	2.4- 4.1	580- 980	2.4- 4.1	580- 980	2.4- 4.1	580- 980	2.4- 4.1
Range of energy expenditure (24 h)	1800- 2200	7.5- 9.2	2000- 2400	8.4- 10.1	2400- 2700	10.1- 11.8	2800- 3200	11.7- 13.4
Mean (24 h)	2000	8.4	2200	9.2	2600	10.9	3000	12.5
Mean (per kg of body weight)	36	0.15	40	0.17	47	0.20	55	0.23

Table 10: Report-form for emergency assistance requests

The following list contains questions which the staff of the World Food Programme, and that of CARITAS INTERNATIONALIS (1981) are asked to answer immediately after an emergency has occurred in order to adjust aid measures to the specific local conditions and the current situation.

1. Nature, extent and date of the disaster
2. Area affected (geographic names; names of regions/ villages/cities affected; limits; surface in square kilometres etc.)
3. Number of people normally living in the area
4. Number of people affected by the emergency (differentiated between people who are dead, missing, injured, hospitalized)
5. Number of children, by age, i.e. 0-1, 1-6, 6-15 years
6. Number of homeless .
7. Number of houses completely destroyed or repairable
8. Condition of livestock and cattle
9. Clothing and household utensils needed
10. Situation of drinking water supply, water and food reserves
11. Situation of the standing crops
12. Destruction of infrastructures (roads, railways, bridges, dams, telephone network, electricity, irrigation systems, etc.)
13. Number of people for whom food aid is required
14. Current nutritional condition of the population (quantitative and qualitative description of possible scarcity)
15. Deficit in food and feed (estimated amounts)
16. Estimated period during which emergency food aid will be required (date from ... to ...)
17. Food habits, preferences and aversions of the affected people
18. Relevance of lactose intolerance
19. Measures which have already been taken, or are being taken, by the local authorities to meet the emergency needs from their own available resources

20. Other (national or international) aid agencies participating in the relief operation; the nature of their assistance
21. Possibility of local purchases of food and/or feed; indicate sources, price per metric ton, date of delivery, name(s) of possible supplier(s)
22. Amounts and date of arrival of aid commodities requested by local authorities
23. Port of entry (or border station for land locked countries)
24. Existing storage facilities (capacity in tons, their location)
25. Transport facilities from port or ports of entry (or from border stations where applicable) indicating number of trucks, rail freight cars and their capacity
26. Administrative arrangements contemplated for organizing and carrying out the relief operation
27. Nature and extent of requested assistance
 - a) personnel
 - b) equipment
 - c) relief supplies, food
 - d) money
28. In the case of so-called least developed countries (LLDC's), estimated cost per metric ton of internal transport, storage and handling of relief supplies
29. Name of local leader or person handling external communications and contacts; indicate available means of communication (mail, telephone, telex, etc.)

"Obviously, during the first days of an emergency, it is never possible to answer all these questions on the basis of precise information. But it is important to send an initial report as soon as possible based on the available information, even if approximate. Figures can be changed later, as more precise information becomes available."

(CARITAS INTERNATIONALIS 1981, p. 62)

Table 11: Popular staples and acceptable alternatives
(PAG 1977, p. 146-186)

These are the introductory remarks of the Protein-Calorie Advisory Group (PAG):

"The following list provides information on a country basis on the major foods consumed in 111 countries. It is planned to help select the correct foods to send to the affected area during an emergency. For countries that are large in size and where dietary patterns vary from one area to another, information is specified by regions. It is important for the user of this list to realize that it gives only a summary of the most important foods consumed. Although the list gives information by different regions, it cannot always mention differences that may exist between rural and urban areas or between socio-economic classes within each region.

The information provided has been obtained from a number of sources, including: food consumption data, the FAO Food Balance Sheets, material on food habits, and reports on experiences with nutrition and food aid programs."

(PAG 1977, p. 146f.)

Because of inaccurate literature sources or changes in the meantime some information may not now be totally true¹⁾. It is, for this and other reasons always recommended that aid agencies inquire from local partners before relief supply is selected.

In both columns titled "Acceptable Alternatives" the item milk powder is frequently mentioned; this appears merely because this is how it is reported in the original. The authors of this manual, however, regard milk powder as a product, the use of which is neither in all situations, nor in most countries recommendable. Detailed information about the issues "milk powder" and "lactose intolerance" are given in the chapters 4.3.2.1 and 4.3.3.4.

1) It is obvious that an up-dated revision of the list would be useful. The authors of this manual, therefore, solicit any relevant information and would appreciate any co-operation.

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompaniment	Staple	Accompaniment	
<u>Afghanistan</u>	Wheat-flour Maize flour Rice Barley	Vegetables Fruits Meat Mutton fat Vegetable oil	Sorghum	Pulses	Pork avoidances. Fish not known everywhere as food.
<u>Algeria</u> Mediterranean Zone (North)	Wheat-flour Barley	Vegetables Broad beans Olive oil Rapeseed oil Butter	Rice Wheat, Bulgur	Milk powder	Pork avoidances.
Saharian Zone (South)	Dates Millet Meat Butter		Wheat-flour Milk powder -		
<u>Angola</u> North	Cassava	Leafy veget. Pulses Peanuts Meat	Wheat-flour Maize flour - Rice Dehydrated potato		Fish not used by pastoralists.
Central Highland	Maize flour	Leafy veget. Pulses Peanuts Meat	Wheat-flour Rice -		
South	Millet	Leafy veget. Pulses Peanuts Meat	Wheat-flour Rice -		
Pastoralists	Millet Blood Meat	Leafy veget. Pulses Peanuts Meat	Sweet potato Yam		
<u>Antigua</u>	Sweet potato Yam	Pulses Peanuts Mung beans Vegetables Milk	Rice Wheat-flour	Milk powder	
<u>Bahrain</u>	Barley Rice Dates	Vegetables Fish Meat Milk Vegetable oil Butter	Wheat-flour Wheat, Bulgur	Milk powder	Pork avoidances.
<u>Bangladesh</u>	Rice	Leafy veget. Pigeon pea Fish Milk Meat Vegetable oil Ghee	Wheat-flour Sorghum Maize flour	Milk powder Peanuts	Pork avoidances
<u>Barbados</u>	Rice Potato Sweet potato Wheat-flour	Pulses Pigeon pea Fish Meat Milk Vegetable oil	Dehydrated potato	Milk powder	
<u>Belize</u>	Rice Plantain	Phaseolus vulgaris Meat Fish Milk	Wheat-flour Maize flour Cassava- farina	Milk powder	
<u>Benin</u>	Millet Sorghum	Vegetables Pulses Peanuts Meat Fish Vegetable oil	Rice Wheat Maize		Pork avoidance

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Bhutan</u>	Rice Barley Wheat-flour	Milk Cheese-milk products Yoghurt Meat Vegetable oil Butter	Maize flour	Milk powder	
<u>Bolivia</u>	Maize flour	Pulses	Rice	Milk powder	Fish not known as food in the Andean Zone.
<u>Andean Zone</u>	Wheat-flour Potato	Meat Milk	Dehydrated potato Barley		
<u>Tropical Zone</u>	Cassava Plantain	Leafy veget. Meat Fish Vegetable oil	Rice Dehydrated potato	Milk	
<u>Botswana</u>	Sorghum Maize flour	Cow peas/ blackeyed beans Milk Meat Vegetable oil Butter	Wheat-flour	Milk powder	
<u>Brazil</u>	Cassava	Pulses	Rice	Milk powder	Despite long coast- line, fish is not consumed much. Vegetable oils and animal fats are known in nearly all regions.
<u>North and North East</u>	Plantain Maize flour	Phaseolus vulgaris Meat Pork	Wheat-flour Dehydrated potato		
<u>Central</u>	Cassava Maize flour	Pulses Phaseolus vulgaris Pork	Rice Wheat-flour Dehydrated potato	Milk powder	
<u>East</u>	Rice Maize flour Cassava	Pulses Phaseolus vulgaris Pork	Wheat-flour Dehydrated potato	Milk powder	
<u>South</u>	Wheat-flour	Beef Milk	Rice	Milk powder	
<u>Burma</u>	Rice	Vegetables Pulses Fish Meat Vegetable oil Soya oil	Wheat-flour	Vegetable oil	
<u>Burundi</u>	Dry legumes Sweet potato Maize flour Cassava	Vegetables Meat Milk Palm oil Cottonseed oil	Rice Wheat-flour Dehydrated potato	Milk powder	Long record of famines. Cow milk is popular - regularly consumed by the cattle owners. Fish consumed near Lake and rivers. Often women do not eat meat. Introduction of yellow maize may create some difficulties.
<u>Cambodia</u>	Rice	Soya bean Peanuts Vegetables Fish Soya oil coconut oil	Wheat flour Maize flour -		
<u>Cameroon</u> <u>North</u> (Sudan-Sahel)	Millet Sorghum	Milk Cottonseed oil Peanut oil	Wheat-flour Rice	Milk powder	Pre-harvest food shortage is common. Introduction of yellow maize may give some difficulties.
<u>Guinea Zone</u>	Cassava Maize flour	Vegetables Meat Fish Cottonseed oil Peanut oil	Wheat-flour Rice	-	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
Cameroon Forest Zone (South)	Cassava Plantain Banana	Leafy veget. Peanuts Meat Fish Palm oil	Wheat-flour Rice	-	
Central Africa Sudan Empire	Cassava Maize flour	Vegetables Peanuts Meat Fish	Rice Wheat-flour	-	
Chad South (farm- ing communi- ties)	Millet Sorghum Maize flour Rice	Vegetables Pulses Phaseolus vulgaris Cow peas Meat Fish Peanut oil	Wheat-flour	-	Pre-harvest food is common. Introduction of red sorghum may give some difficul- ties. Pastoralists do not eat fish.
North (mainly pastoralist)	Millet Sorghum Meat Milk Cheese-milk products Butter	-	Rice	Milk powder	
Chile	Wheat-flour Potato	Pulses Meat Vegetable oil Milk Cheese-milk products Fish Sunflower seed oil Rapeseed oil	Rice Maize flour Dehydrated potato	Vegetable oil Dry fish Chick pea	
Colombia Coastal Zone	Rice Plantain Maize flour	Meat Fish Phaseolus vulgaris	Wheat-flour	-	Fish not often con- sumed in the Andean Zone. Vegetable oils and animal fats are known in all regions
Andean Zone	Maize flour Potato	Pulses Meat	Wheat-flour Rice Dehydrated potato Cassava	-	
Amazon Basin	Plantain Cassava	Vegetables Leafy vegetables	Wheat-flour Rice Dehydrated potato		
Congo	Cassava Plantain Yam Sweet potato Rice	Leafy vegetables Meat Fish Peanut oil	Maize flour Wheat-flour Dehydrated potato	-	
Costa Rica	Rice Maize flour Wheat-flour	Phaseolus vulgaris Meat Palm oil Cottonseed oil Butter	Wheat-flour	Milk powder Pulses	
Cuba	Wheat flour Rice	Pulses Phaseolus vulgaris Cow peas/ blackeyed beans Fish Milk Meat Soya oil Sunflower seed oil Butter	Maize flour	Milk powder	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Cyprus</u>	Wheat-flour	Vegetables Meat Milk Fish Olive oil Butter	Rice	Milk powder	
<u>Dahomey</u> <u>North</u> (Sudan Zone)	Millet Sorghum	Vegetables Phaseolus vulgaris Cow peas/ blackeyed beans Meat Fish Vegetable oil Butter	Rice Wheat-flour - Maize flour		
<u>South</u> (Guinea Zone)	Maize flour Cassava Yam Cocoyam	Vegetables Phaseolus vulgaris Cow peas/ blackeyed beans Meat Fish Palm oil	Rice Wheat-flour -		Introduction of yellow maize may give some difficul- ties. Consumption of different staples varies according to seasonal supply. In the North, pre-har- vest food shortage is common.
<u>Dominican</u> <u>Republic</u>	Rice Plantain Cassava	Pulses Phaseolus vulgaris Pigeon peas Meat Milk Peanut oil Beef fat	Wheat-flour Maize flour	Milk powder Fish	Fish not popular as a food
<u>Ecuador</u> <u>Coastal Zone</u>	Rice Plantain	Phaseolus vulgaris Cow peas/ blackeyed beans Broad beans Fish	Wheat-flour	Milk powder	Fish not known as food in the Andean Zone. Vegetable oils and animal fats are consumed in most of the regions.
<u>Andean Zone</u>	Potato Wheat-flour Barley Maize flour	Meat Milk	Dehydrated potato Rice Oats	Pulses	
<u>Humid</u> <u>Tropical</u> <u>Zone</u>	Cassava Plantain	Leafy vegetables Meat Fish	Rice Dehydrated - potato		
<u>Egypt</u>	Wheat-flour Maize flour Rice	Vegetables Broad beans Meat Fish Milk Cheese-milk products Cottonseed oil	Wheat, Bulgur Sorghum	Milk powder	Pork avoidances. Fenugreek flour used.
<u>El Salvador</u>	Maize flour	Phaseolus vulgaris Meat Cottonseed oil Pork fat Peanuts Chick pea	Wheat-flour Rice - Sorghum		
<u>Equatorial</u> <u>Guinea</u> <u>Rio Muni</u>	Cassava Plantain Yam	Leafy veget. Pulses Fish Meat	Rice Wheat-flour - Dehydrated potato		
<u>Fernando Po</u>	Cassava Yam Rice	Leafy veget. Fish Meat Nut oil	Wheat-flour -		

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
Ethiopia Highlands	Teff	Vegetables	Rice		Consumption of fish near lakes, rivers or sea. Great regional variation in the diets. South and Southwest-ensete (false banana) is consumed.
	Sorghum	Chick pea		-	
	Barley	Broad beans			
	Maize flour	Chicken			
South and South West	Wheat-flour	Nut oil			
	Banana	-	Wheat-flour		
	Teff			-	
	Millet				
Desert (nomads)	Sorghum				
	Milk	-	Wheat-flour		
	Butter			-	
	Corn				
Fiji Fijians	Sorghum				
	Taro	Leafy veget.	Rice		Introduction of yellow maize may give some difficulties. Consumption of staples varies according to seasonal supply. In the North, pre-harvest food shortages are common.
	Yam	Coconut	Wheat-flour	-	
	Cassava	Pork	Dehydrated potato		
Indians		Fish			
	Rice	Pulses	Maize flour		
	Wheat-flour	Vegetables	Millet	-	
			Sorghum		
Gabon					
	Cassava	Vegetables	Rice		
	Plantain	Meat	Maize flour	-	
		Fish			
The Gambia		Palm oil			
	Rice	Peanuts	Wheat-flour		
	Millet	Meat	Maize flour	-	
	Sorghum	Fish			
Ghana North (Guinea and Sudan Zone)		Palm oil			
	Millet	Vegetables	Maize flour		Introduction of yellow maize may give some difficulties. Consumption of staples varies according to seasonal supply. In the North, pre-harvest food shortages are common.
	Sorghum	Phaseolus vulgaris	Rice	-	
	Yam	Cow peas/blackeyed beans	Wheat-flour		
Maize flour		Chick pea			
		Meat			
		Fish			
		Vegetable oil			
South (Forest Zone)	Maize flour	Vegetables	Maize flour		
	Yam	Cow peas/blackeyed beans	Rice	-	
	Cassava	Peanuts	Wheat-flour		
	Cocoyam	Fish			
Guatemala		Meat			
		Palm oil			
	Maize flour	Phaseolus vulgaris	Rice	Pulses	Introduction of yellow maize may give difficulties. Pre-harvest food shortage occurs. Milk consumed in Middle Guinea.
		Pigeon pea	Wheat-flour	Milk powder	
Guinea		Broad beans	Oats		
		Cottonseed oil			
		Meat			
		Pork fat			
Guyana	Rice	Leafy vegetables	Wheat-flour		
	Maize flour	Peanuts			
	Cassava	Meat			
		Fish			
Haiti					
	Rice	Phaseolus vulgaris	Dehydrated potato	Milk powder	Food habits differ among various population groups.
	Wheat-flour	Cow peas/blackeyed beans			
		Peanuts			
		Fish			
Guyana		Meat			
		Milk			
		Coconut oil			
Haiti	Maize flour	Phaseolus vulgaris	Rice	Pulses	
	Millet	Cow peas/blackeyed beans	Wheat-flour	Milk powder	
	Plantain	Meat	Sorghum		
	Cassava	Fish	Dehydrated potato		
Haiti		Vegetable oil			

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Honduras</u>	Maize flour Sweet potato Cassava Plantain	Phaseolus vulgaris Meat Fish Vegetable oil	Wheat-flour Rice Sorghum Dehydrated potato	Pulses Milk powder	
<u>Hong Kong</u>	Rice Wheat- Noodles	Mung beans Golden mung beans Vegetables Fish Pork Vegetable oil	Wheat-flour	Soya bean Split peas, lentils Dry fish	
<u>India</u> <u>North</u>	Wheat-flour	Pulses Pigeon pea Chick pea Split peas, lentils Milk Yoghurt Vegetables Ghee Vegetable oil	Rice Millet	Peanuts Milk powder	Vegetarianism, but milk and milk pro- ducts are appre- ciated as food. Beef may not be acceptable among meat eaters. Pork avoidance also.
<u>South</u>	Rice	Pigeon pea Split peas, lentils Milk Yoghurt Vegetable oil Ghee	Sorghum Wheat-flour	Peanuts Milk powder	
<u>Indonesia</u>	Rice Cassava Maize flour	Vegetables Soya bean Mung beans Golden mung beans Coconut oil Fish Meat	Wheat-flour Sorghum		In West Irian roots and tubers make up the main staple. Among non-Moslem population pork is consumed.
<u>Iran</u>	Wheat-flour Rice	Chick peas Split peas, lentils Meat Milk Cheese-milk products Yoghurt Vegetable oil	Oats Barley Wheat, Bulgur	Milk powder Sesame oil	Seasonal changes in diet. Pork avoidances. Fish not familiar as food except on coast.
<u>Iraq</u>	Wheat-flour Rice Barley	Split peas, lentils Broad beans Milk Meat Palm oil	Sorghum Wheat, Bulgur	Milk powder	Pork avoidances. Dates, staple food in South.
<u>Ivory Coast</u> <u>North</u> (Guinea Zone)	Yam Sorghum Maize flour	Vegetables Vegetable oil Pulses Peanuts Meat Fish	Rice Wheat-flour -		Introduction of yellow maize may give some diffi- culties. Food varies according to seasons. Pre- harvest food shortage known in North.
<u>South</u> (Forest Zone)	Yam Cassava Cocoyam Maize flour Plantain	Vegetables Pulses Peanuts Meat Fish Palm oil Peanut oil	Maize flour Rice Wheat-flour Dehydrated potato		
<u>Jamaica</u>	Wheat-flour Sweet potato Bread fruit Plantain	Chick pea Phaseolus vulgaris Coconut Meat Fish Coconut oil	Rice Maize flour	Milk Milk powder	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Jordan</u> Settled population	Wheat-flour	Chick pea Split peas, lentils Vegetables Milk Cheese-milk products Olive oil	Wheat, Bulgur Rice Barley	Milk powder	Fish not known as food. Pork avoidances.
Nomads	Milk Cheese-milk products Wheat-flour Millet	-	Milk powder	-	
<u>Kenya</u> Settled population	Maize flour Millet Sorghum Plantain	Leafy veget. Meat Pigeon pea Pulses Phaseolus vulgaris Vegetable oil Mutton fat Beef fat	Wheat-flour Cassava- farina	Milk powder	Fish consumed on the coast and on shores of lake.
Pastoralists	Millet Blood Milk Meat	-	Yam	-	
<u>Korea</u>	Rice Barley Sweet potato Wheat-flour Wheat- Noodles	Vegetables Mung beans Golden mung beans Fish Meat Egg Vegetable oil	Millet Sorghum	Sesame seeds Dry fish	Kimchi, fermented cabbage, is popular.
<u>Kuwait</u>	Wheat-flour Barley Rice	Fruits Mung beans Cheese-milk products Meat	Wheat, Bulgur Yam	-	Pork avoidances.
<u>Laos</u>	Rice	Vegetables Fish Vegetable oil Mutton fat	Maize flour Wheat-flour	-	
<u>Lebanon</u>	Wheat-flour	Vegetables Chick pea Cow peas/ blackeyed beans Broad beans Milk Cheese-milk products Cottonseed oil Olive oil Beef fat	Rice	Milk powder	Pork avoidances for Moslems.
<u>Lesotho</u>	Maize flour Sorghum	Vegetables Phaseolus vulgaris Meat Milk Vegetable oil Beef fat Mutton fat	Wheat-flour Barley Oats Cassava- farina	Milk powder Peanuts Cow peas/ blackeyed beans	Fish is not used as food.
<u>Liberia</u>	Rice Cassava Maize flour	Phaseolus vulgaris Cow peas/ blackeyed beans Leafy veget. Peanuts Fish Palm oil	Wheat-flour Dehydrated potato Cassava- farina	Dry fish	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
Libya Settled population	Wheat-flour Barley Dates	Chick peas Split peas, lentils Broad beans Meat Camel meat Olive oil	Rice	Milk powder	Fish not used as food outside coastal regions. Pork avoidances.
Pastoralists	Dates Milk	-	Rice Wheat-flour - Yam		
Malagasy Republic	Rice Cassava Maize flour Yam Sweet potato	Leafy veget. Meat Fish Peanut oil Mutton fat Beef fat	Wheat-flour Dehydrated - potato		Consumption varies according to seasonal supply.
Malawi	Maize flour Cassava	Vegetables Cow peas/ blackeyed beans Pigeon pea Peanut Fish Meat Peanut oil	Rice Wheat-flour Dehydrated potato	Vegetable oil	Pre-harvest shortages known. Introduction of yellow maize may give some difficulties.
Malaysia	Rice	Vegetables Leafy veget. Soya bean Pigeon pea Chick pea Chicken Fish Coconut oil Mutton fat	Wheat-flour	Vegetable oil	Different ethnic groups exist with own food habits; pork is avoided by Moslems and beef by the Hindus.
Mali Sahelian Zone (some pastoralists)	Milk Cheese-milk products Millet	-	Milk	-	Pre-harvest food shortage common. Pastoralists don't eat fish. Intro- duction of yellow maize and red sorghum may give some difficulties. Vegetable oils and animal fats are known in most regions of the country.
Sahelian Zone (farming com- munities and pastoralists)	Millet Fonio-seeds of crab grass Rice	Leafy vegetables Peanuts Fish Meat	Wheat-flour Maize flour	Vegetable oil	
Sudanian Zone	Millet Fonio-seeds of crab grass Maize flour Rice Cassava	Leafy vegetables Peanuts Fish Meat	Wheat-flour	Vegetable oil	
Malta	Wheat-flour Wheat-pasta	Broad beans Split peas, lentils Chick peas Meat Fish Olive oil Beef fat	Rice Wheat, Bulgur	Vegetable oil	
Mauritania Sahara and Sahel (mainly pastoralists)	Millet Milk Dates	Meat Milk Butter	Rice Wheat-flour	Milk powder	Fish not consumed by pastoralists.
Southern Sahel (Sene- gal Valley, Maize flour farming communities)	Millet Sorghum Maize flour Sweet potato	Vegetables Pulses Fish Meat Peanut oil	Rice Wheat-flour	Milk powder	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Mauritius</u>	Rice	Pigeon pea Chick pea Mung beans Phaseolus vulgaris Meat Milk Soya oil Mutton fat	Wheat-flour	Milk powder	
<u>Mexico</u>	Maize flour Rice	Phaseolus vulgaris Pork Chicken Milk Cheese-milk products Vegetable oil	Wheat-flour	Milk powder	Fish not univer- sally known as a food. Food habits differ among regions.
<u>Mongolia</u>	Meat Wheat-flour	Milk Cheese-milk products Yoghurt Vegetables Butter	Rice	Milk powder	Fish not often consumed. Meat is the staple.
<u>Morocco</u> North	Wheat-flour Barley Sorghum	Vegetables Chick pea Broad beans Milk Whey Olive oil	Rice	Milk powder	Fish generally not used in South and Central parts.
Central	Wheat-flour Barley Maize flour	Vegetables Meat Whey Olive oil	Rice	Milk powder	
South (Sahara)	Barley Wheat-flour Maize flour Dates Sweet potato	Vegetable oil	Rice	Milk powder	Argan oil from seeds of Argan tree (like olive oil).
<u>Mozambique</u>	Cassava Maize flour Sorghum Millet Rice	Peanuts Fish Meat Peanut oil Cottonseed oil	Wheat-flour Dehydrated - potato		Cereals and tubers consumed in different pro- portions in diffe- rent areas.
<u>Nepal</u>	Rice Maize flour	Pulses Vegetables Milk Cheese-milk products Yoghurt Mustard oil Butter Ghee	Wheat-flour Sorghum	Milk powder	Beef not acceptable.
<u>Papua - New Guinea</u>	Sweet potato Yam Sago	Leafy vegetables Pulses Pork	Maize flour Rice	-	Fish mainly con- sumed in the coastal and riverine areas.
<u>Nicaragua</u>	Maize flour Rice	Phaseolus vulgaris Cottonseed oil Meat Pork fat	Wheat-flour Sorghum	Milk powder	
<u>Niger</u> Sahelian Zone (pastoralists)	Millet Dates	Milk Cheese-milk products Butter Meat	Wheat-flour Cassava- farina	Milk powder	Pastoralists do not eat fish; pre- harvest food shortage common. Introduction of yellow maize and red sorghum may give some difficulties.
Sahelian Zone	Millet Sorghum	Peanuts Cow peas/ blackeyed beans Meat Vegetable oil	Wheat-flour Maize flour	Dry fish Pulses	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Niger</u> Sudanian Zone (Southwest)	Millet Sorghum Maize flour Rice Cassava	Fish Peanuts Meat	Wheat-flour Maize flour	Dry fish Pulses	
<u>Nigeria</u> Sahel Zone (North)	Millet Sorghum	Vegetables Peanuts Meat Fish Milk Butter Peanut oil	Maize flour Rice Wheat-flour Cassava	Milk powder	Introduction of yellow maize may give some difficulties. Consumption varies according to seasonal supply. In the Sahel and Sudan Zone, pre-harvest food shortages common.
Sudan Zone	Sorghum Millet Digitaria - a variety of grass	Vegetables Peanuts Meat Fish Peanut oil	Rice Maize flour - Wheat-flour Cassava		
Guinea Zone	Sorghum Millet Yam Sweet potato	Cow peas/ blackeyed beans Vegetables Meat Fish Vegetable oil	Maize flour Rice - Wheat-flour Dehydrated potato Cassava		
Equatorial Guinea Zone	Yam Cocoyam Cassava Maize flour	Vegetables Cow peas/ blackeyed beans Peanuts Meat Fish Palm oil	Wheat-flour Dehydrated potato Cassava	Dry fish	
<u>Oman</u> Settled population	Millet Wheat-flour Dates	Sesame oil Butter	Rice Wheat, Bulgur	-	Pork avoidances. Fish is consumed in coastal communities.
Nomads	Sweet potato Cocoyam Millet Dates	-	Yam	-	
<u>Pakistan</u>	Wheat-flour Rice Millet	Pigeon pea Mung beans Split peas, lentils Meat Fish Milk Cheese-milk products Vegetable oil Ghee	Sorghum Maize flour	Milk powder Pulses	Pork avoidances.
<u>Panama</u>	Rice Maize flour Plantain	Phaseolus vulgaris Meat Milk Cheese-milk products Fish Pork fat	Wheat-flour Oats	Milk powder Cow peas/ blackeyed beans Butter beans	
<u>Paraguay</u>	Cassava Maize flour Wheat-flour Sweet potato	Pulses Meat Milk Peanut oil Soya oil Cottonseed oil	Rice Dehydrated potato	Milk powder	Fish is not known as food.
<u>Peru</u> Coastal Zone	Wheat-flour Rice	Pulses Meat Fish	Barley	Vegetable oil	

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
Peru	Potato	Pulses	Dehydrated	Vegetable	Fish is not known as a food in the Andean Zone. Vegetable oils and animal fats are used in most of the regions.
Andean Zone	Wheat-flour	Meat	potato	oil	
	Maize flour	Milk	Rice		
	Wheat-noodles		Barley		
			Oats		
Humid Tropical Zone	Cassava	Leafy veget.	Rice	Vegetable	
	Plantain	Meat	Sweet	oil	
		Fish	potato		
Philippines	Rice	Vegetables	Wheat-flour	Mung beans	Pork not consumed in some areas in South.
	Maize flour	Leafy veget.		Pulses	
		Fish		Split peas, lentils	
		Pork			
		Coconut oil			
Qatar	Wheat-flour	Meat	Wheat,	Milk powder	Pork avoidances.
	Rice	Milk	Bulgur		
	Dates	Sesame oil	Sorghum		
		Butter			
Rhodesia	Maize flour	Vegetables	-	-	Introduction of yellow maize may give some difficulties.
	Millet	Peanuts			
	Sorghum	Meat			
	Wheat-flour	Fish			
		Peanut oil			
		Cottonseed oil			
Rwanda	Sweet potato	Cow peas/blackeyed beans	Rice	Milk powder	Record of famines. Cow's milk popular but not regularly consumed. Fish consumed near lakes and rivers. Dry legumes actually replace cereals in diet.
	Maize flour	Phaseolus vulgaris	Wheat-flour		
	Cassava	Pigeon pea	Potato		
		Leafy veget.			
		Meat			
		Milk			
		Butter			
Saudi Arabia	Sorghum	Meat	Wheat,	Milk powder	Pork avoidances. Fish avoidances. Fish consumed in coastal communities.
Sedentary population	Wheat-flour	Milk	Bulgur		
	Rice	Butter			
	Millet				
	Dates				
Nomads	Sweet potato	-	Wheat,	Milk powder	
	Cocoyam		Bulgur		
	Wheat-flour				
	Sorghum				
	Rice				
	Millet				
Senegal	Rice	Leafy veget.	Wheat-flour	Milk powder	Pre-harvest food shortages common. Peanuts are main cash crops. Introduction of yellow maize and red sorghum may give difficulties.
	Sorghum	Peanuts			
	Millet	Meat			
	Maize flour	Fish			
		Milk			
		Peanut oil			
Casamance	Cassava	Leafy vegetables	Wheat-flour	Milk powder	
	Rice		Maize flour		
	Millet	Meat	Dehydrated		
	Sorghum	Fish	potato		
Pastoralists	Sorghum	-	Wheat-flour	-	Pastoralists do not eat fish.
	Millet		Milk powder		
	Milk				
Sierra Leone	Rice	Leafy veget.	Wheat-flour	Dry fish	Introduction of yellow maize may give some difficulties.
	Cassava	Peanuts	Maize flour		
	Millet	Phaseolus vulgaris	Cassava-farina		
	Sweet potato	Fish			
		Meat			
		Palm oil			
Singapore	Rice	Leafy veget.	Wheat-flour	-	
		Vegetables			
		Pulses			
		Soya bean			
		Fish			
		Pork			
		Chicken			

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Somalia</u> Settled population and Semi- nomads	Sorghum	Pulses	Wheat-flour	Milk powder	Fish not a common food.
	Maize flour	Milk Butter			
Pastoralists	Milk Butter Meat Sorghum	-	Wheat-flour	-	
<u>Sri Lanka</u>	Rice	Vegetables	-	Milk powder	
	Wheat-flour Cassava	Milk Fish Coconut oil Pigeon pea		Split peas, lentils Dry fish	
<u>St. Kitts, Nevis and Anguilla</u>	Wheat-flour	Pulses	Dehydrated	Milk powder	
	Rice Sweet potato	Fish Meat Milk Cheese-milk products	potato		
<u>St. Vincent</u>	Rice	Pulses	Wheat-flour	Milk powder	
	Sweet potato Yam Cassava	Fish Milk Cheese-milk products Meat Vegetable oil	Dehydrated potato		
<u>Sudan</u> North	Sorghum	Peanuts	Wheat-flour	Milk powder	Pork avoidances. Consumption varies according to seasonal supply. Introduction of yellow maize may give some diffi- culties.
	Millet Maize flour	Pulses Milk Meat Sesame oil Cottonseed oil	Maize flour		
South	Millet	Fish	Wheat-flour	Milk powder	
	Sorghum Cassava Sweet potato	Meat Milk Vegetable oil Butter	Rice Dehydrated potato		
<u>Surinam</u>	Rice	Pulses	Wheat,	Milk powder	Food habits differ among various population groups.
	Wheat-flour Sweet potato Cassava	Meat Fish Milk Cheese-milk products Coconut oil	Bulgur Dehydrated potato		
<u>Swaziland</u>	Maize flour	Leafy veget.	Wheat-flour	Milk powder	Fish not popular food. Canned fish is accepted (sar- dines and pilchards). Introduction of yellow maize may give some difficulties.
	Sorghum	Peanuts Meat Milk Vegetable oil Butter	Rice		
<u>Syria</u> Settled population	Wheat-flour	Broad beans	Wheat,	Milk powder	Fish is mainly consumed along rivers. Pork avoidances.
	Barley	Cheese-milk products Meat Mutton Sesame oil Cottonseed oil	Bulgur Rice Sorghum		
Nomads	Milk Cheese-milk products	-	Wheat-flour	-	
	Millet		Rice Sorghum Milk powder		
<u>Tanzani</u>	Yam	Coconut	Rice	-	
	Taro Sweet potato	Fish Pork	Wheat-flour Dehydrated potato		

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Tanzania</u> Settled population	Maize flour Millet Sorghum Plantain Cassava	Vegetables Peanuts Cow peas/ blackeyed beans Phaseolus vulgaris Meat Fish	Dry fish	-	
Pastoralists	Millet Blood Milk Meat		Wheat-flour - Rice		
<u>Thailand</u>	Rice	Vegetables Fish Egg Peanut oil Coconut oil	Maize flour - Wheat-flour		
<u>Togo</u> North	Millet Sorghum	Vegetables Peanuts Meat Fish Vegetable oil	Maize flour - Rice Wheat-flour		Introduction of yellow maize may give some diffi- culties. Consump- tion varies according to seasonal supply. Pre-harvest food shortages common in the North.
South (Guinea Zone)	Yam Cassava Maize flour Cocoyam Sweet potato	Vegetables Peanuts Meat Fish Palm oil Coconut oil	Maize flour - Rice Wheat-flour Dehydrated potato		
<u>Trinidad and Tobago</u>	Wheat-flour Rice	Pulses Fish Milk Cheese-milk products Meat Coconut oil		Milk powder	The food habits of Creole, Hindu, and Moslem popu- lation not same.
<u>Tunisia</u>	Wheat-flour Barley Oats	Broad bean Chick pea Meat Milk Cheese-milk products Olive oil	Barley Wheat-pasta	Milk powder Split peas, lentils	Pork avoidances.
<u>Turkey</u>	Wheat-flour Wheat, Bulgur	Broad beans Chick pea Meat Cheese-milk products Olive oil	Rice Barley Maize flour	Milk powder	Pork avoidances. Fish consumed in coastal areas. Rye is used as staple in many places.
<u>Uganda</u>	Cassava Plantain Sorghum Millet Maize flour	Cow peas, blackeyed beans Chick pea Peanuts Fish Meat Milk Vegetable oil	Wheat-flour Rice	Milk powder	
<u>Upper Volta</u> <u>Sudan Zone</u>	Sorghum Millet	Leafy veget. Peanuts Vegetable oil Peanut oil	Maize flour - Rice		Pre-harvest food shortages common.
Guinea Zone	Sorghum Yam Cassava	Leafy veget. Peanuts Vegetable oil Peanut oil	Maize flour - Rice Dehydrated potato		

Country/ Region	MAJOR FOOD		ACCEPTABLE ALTERNATIVE		Remarks
	Staple	Accompani- ment	Staple	Accompani- ment	
<u>Uruguay</u>	Wheat-flour	Meat Milk Vegetables Sunflower seed oil	Rice	Milk powder	
<u>Venezuela</u>	Wheat-flour Maize flour Banana Rice	Pulses Meat Milk Cheese-milk products Coconut oil Sesame oil	Dehydrated potato	Milk powder	Food habits differ in various regions. Fish not used as food in inland areas.
<u>Viet-Nam, Socialist Republic of</u>	Rice	Vegetables Mung beans Golden mung beans Soya bean Meat Pork Fish Vegetable oil	Wheat-flour Wheat- noodles	Dry fish Pulses	
<u>Western Samoa</u>	Taro Banana Bread Fruit	Leafy veget. Fish Meat Coconut	Wheat-flour -		
<u>Yemen Arab Republic</u>	Millet Sorghum Wheat-flour	Chick pea Vegetables Cheese-milk products Butter Vegetable oil	Rice Maize flour	Milk powder	Pork avoidances. Fish on coast. Fenugreek is im- portant accompany- ing item.
<u>Yemen People's Dem. Rep. Settled population</u>	Wheat-flour Millet Sorghum Rice Dates	Meat Milk Ghee Vegetable oil	Wheat, Bulgur	Milk powder	Pork avoidances. Fish consumed on coast.
<u>Nomads</u>	Sweet potato Cocoyam Wheat-flour Millet Sorghum	-	Wheat, Bulgur Yam	-	
<u>Zaire</u>					
<u>Tropical wet- dry areas (low lands of Kasai and lower Congo Basin)</u>	Cassava Maize flour Plantain	Leafy vegetables	Rice	-	Introduction of yellow maize may give some diffi- culties. Vegetable oil (groundnut oil, palm oil) are con- sumed in nearly all regions.
<u>Equatorial wet areas (North districts)</u>	Cassava Plantain Maize flour	-	Rice Wheat-flour	Vegetable oil	
<u>Tropical Highlands (Kasai)</u>	Cassava Maize flour Millet	-	Rice Wheat-flour	-	
<u>Temperate Highlands (Katanga)</u>	Maize flour	-	Rice Wheat-flour	-	
<u>Zambia</u>	Maize flour Cassava Millet	Vegetables Peanuts Fish Meat Peanut oil	Wheat-flour -		Introduction of yellow maize may give some diffi- culties.

Table 12: STATE OF DISASTER PREPAREDNESS IN THE POOREST OF THE
DEVELOPING COUNTRIES (according to BROWN 1979, p. 113-120)

Country	Potential Disaster Hazards (in order of importance)	National Disaster Organisation	National Disaster Plan
Afghanistan	Flood, drought, earthquake, epidemic	Office of Emergency Preparedness	As of 1973, there is a new plan under discussion.
Bangladesh	Cyclone, tidal bore, flood, epidemics, drought	Ministry of Relief and Rehabilitation	The Ministry of Relief and Rehabilitation is a permanent relief organization responsible co-ordinating relief activities. In actuality, the Bangladesh Red Cross carries out many warning and relief operations, particularly in the case of cyclones.
Benin	NA*	No permanent organization; ad hoc committees set up for each disaster	No plan exists
Bhutan	NA	NA	NA
Botswana	NA	No permanent organization	The police are charged with the control and coordination of disaster assistance
Burma	Cyclone, storm, flood	Ministry of Social Welfare, Dept. of Relief and Resettlement	None; ad hoc control centers
Burundi	NA	No permanent organization	No plan exists
Cameroon	NA	No permanent organization	No plan exists
Cape Verde	NA	NA	NA
Central Africa Empire	NA	No permanent organization; ad hoc committee was set up after flood in September 1973	No plan exists
Chad	Drought, famine, epidemic.	Agency for the Defense Against Natural Calamities (DLCEN)	No national plan exists
Egypt	NA	No permanent organization; various government services are involved	A plan exists under the authority of the General Administrative Office for Social Security and Relief
El Salvador	NA	National Emergency Committee	A plan exists

*NA not available

Country	Potential Disaster Hazards (in order of importance)	National Disaster Organization	National Disaster Plan
Ethiopia	Drought, epidemic	Relief and Rehabilitation Commissions	Composed of various ministries and organizations. Responsible for relief and rehabilitation
Gambia	NA	No permanent organization	A plan exists
Ghana	NA	No permanent organization	No plan exists
Guinea	NA	No permanent organization	No plan exists
Guinea Bissau	NA	NA	NA
Guayana	NA	No permanent organization	No national plan, but each division has a plan
Haiti	Hurricane, flood, fire, drought	No permanent organization; Haitian Red Cross is official relief organization	The National Disaster Plan was approved in 1976. The Haitian Red Cross president directs pre-disaster planning and relief operations. Regional and local committees have formed disaster teams which are preparing to assess local disasters, provide initial relief and report to a national committee
Honduras	NA	Permanent National Emergency Council (COPEN)	COPEN directs all disaster relief operations, establishes committees and work groups, and coordinates all private organization international agency relief activities
India	Flood, storm, epidemic, drought	Central Emergency Relief	The Central Emergency Relief acts in an advisory and coordinating capacity. Its duties are to assess the magnitude of the disaster; coordinate the government's efforts in disasters; and provide relief aid. Particularly disaster-prone regions have established disaster plans and organizations with responsibilities assigned to army, police and public services

Country	Potential Disaster Hazards (in order of importance)	National Disaster Organization	National Disaster Plan
Ivory Coast	NA	NA	NA
Kampuchea, Democratic	NA	No permanent organization	No plan exists
Kenia	NA	No permanent national organization exists, but there are local disaster committees and a central ad hoc disaster committee	No plan exists
Laos	NA	A permanent organization exists but there is no further information available	A national disaster plan exists
Lesotho	NA	No permanent organization	No plan exists
Madagascar	Flood, storm, cyclones	National Relief Council	In 1972, the government set up a plan of organization of assistance in cases of cyclones. It provides for a National Relief Council composed of government services and private organizations chaired by the Ministry of the Interior and an executive general staff under the armed forces. Preparation against the cyclone season is the responsibility of local authorities. Disaster assistance is administered and coordinated by the National Relief Council
Malawi	NA	No permanent organization	No plan exists
Maldives	NA	No permanent organization	No plan exists
Mali	Drought, famine, epidemic	Sahel Disaster Relief Organization	No plan exists
Mauretania	Drought, famine, epidemic	No permanent organization	No plan exists
Mozambique	NA	NA	NA
Nepal	NA	Ad hoc committees but no permanent address	No plan exists
Niger	Drought, famine, epidemic	An interministerial committee is responsible for organizing and coordinating disaster assistance. Local committees have been set up in certain areas	No plan exists

Country	Potential Disaster Hazards (in order of importance)	National Disaster Organization	National Disaster Plan
Pakistan	Flood, earthquake, drought, epidemic, locust invasion, border conflict, landslide, tsunami	Disaster Relief Committee	Local UNDP coordinates foreign donor relief effort, reports to foreign donors and appeals for foreign assistance. Has flood control plan to be completed 1980-81. There is an improved warning system with weather radar and satellite stations. Disaster relief plans are underway at federal, provincial, capital and district levels
Rwanda	NA	NA	NA
Senegal	NA	The National Foundation for Social Work is responsible for disaster assistance	No plan exists
Sierra Leone	NA	NA	NA
Sikkim	NA	NA	NA
Somalia	Drought, famine, epidemics	No permanent organization	No plan exists
Sri Lanka	NA	The Ministry of Social Affairs	The Ministry of Social Affairs is responsible for disaster relief and has formulated plans at all levels
Sudan	NA	NA	NA
Tanzania	NA	NA	NA
Uganda	NA	No permanent organization	No plan exists
Upper Volta	NA	NA	NA
Western Samoa	Hurricane, flood, earthquake, tsunami volcanic eruption	No permanent organization	A national plan exists
Yemen, Arab Republic	NA	NA	NA
Yemen, People's Democratic Republic	NA	NA	NA