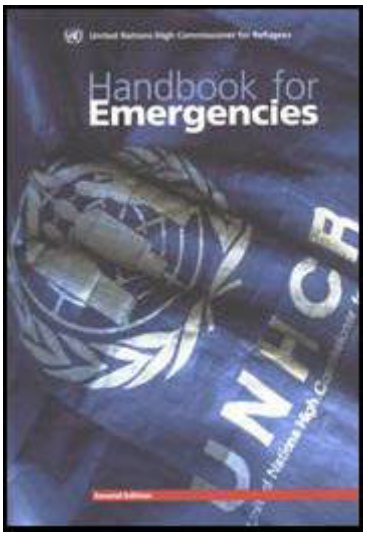

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Appendix 2 - Toolbox

Table 1 - Key Emergency Indicators
XXXXXXXXXXXX

Crude	Normal rate among a settled population	0.3 to 0.5/10,000/day
Mortality rate	Emergency program under control	<1/10,000/day
(CMR)	Emergency program in serious trouble	>1/10,000/day
	Emergency: out of control	>2/10,000/day
	Major catastrophe	>5/10,000/day
Mortality rate	Normal rate among a settled population	1.0/10,000/day
among children	Emergency program under control	<2.0/10,000/day
under 5 years old	Emergency program in serious trouble	>2.0/10,000/day
(U5MR)	Emergency: out of control	>4.0/10,000/day
Clean water	Minimum survival allocation	7 liters/person/day
	Minimum maintenance allocation	15-20 liters/person/day
Food	Minimum food energy requirement for a	2,100 kcal/person/day
	population totally dependant on food aid	
Nutrition	Emergency level:	>15% of the population under five years old
		below 80% weight for height
	or	>10% of the population under five years old
		below 80% weight for height together with aggravating
		factors e.g. epidemic of measles,
		crude mortality rate > 1/10,000/day
Measles	Any reported cases. 10% or more unimmunized in the 6 months to 5 years age group	
Respiratory infections	Any pattern of severe cases	
Diarrhoea	Any pattern of severe cases	
Appropriate shelter	Protection from wind, rain, freezing temperatures, and direct sunlight are minimum requirements	
	Minimum shelter Minimum total site area	area 3.5 sq. m/person 30.0 sq. m/person
Sanitation	Lack of organized excreta and waste disposal. Less than 1 latrine cubicle per 100 persons	

Table 2 - Public Health Emergency: Major Killers

Measles **Diarrhoeal Diseases** **Acute respiratory infection (API)** **Malaria Malnutrition**	A significant increase of incidence of these conditions should prompt an immediate response (or the reporting of just one case of measles**)**

Table 3 - Common Health Problems

Disease	Major contributing factors	Preventive measures
Diarrhoeal diseases	Overcrowding Contamination of water and food Lack of hygiene	• adequate living space • public health education • distribution of soap • good personal and food hygiene • safe water supply and sanitation
Measles	Overcrowding Low vaccination coverage	• minimum living space standards as defined in chapter on site planning • immunization of children with distribution of Vitamin A. Immunization from 6 months up to 15 years (rather than the more usual 5 years) is recommended because of the increased risks from living conditions
Acute respiratory infections	Poor housing Lack of blankets and clothing Smoke in living area	• minimum living space standards and • proper shelter, adequate clothing, sufficient blankets
Malaria	New environment with a strain to which the refugees are not immune Stagnant water which becomes a breeding area for mosquitoes	• destroying mosquito breeding places, larvae and adult mosquitoes by spraying. However the success of vector control is dependent on particular mosquito habits and local experts must be consulted • provision of mosquito nets • drug prophylaxis (e.g. pregnant women and young children according to national protocols)
Meningococcal meningitis	Overcrowding in areas where disease is endemic (often has local seasonal pattern)	• minimum living space standards • immunization only after expert advice when surveys suggest necessity
Tuberculosis	Overcrowding Malnutrition High HIV prevalence	• minimum living space standards (but where it is endemic it will remain a problem) • immunization
Typhoid	Overcrowding Poor personal hygiene Contaminated water supply Inadequate sanitation	• minimum living space standards • safe water, proper sanitation • good personal, food and public hygiene and public health education WHO does not recommend vaccination as it offers only low, short-term individual protection and little or no protection against the spread of the disease
Worms especially hookworms	Overcrowding Poor sanitation	• minimum living space standards • proper sanitation • wearing shoes • good personal hygiene
Scabies[1]	Overcrowding Poor personal hygiene	• minimum living space standards • enough water and soap for washing
Xerophthalmia Vitamin A deficiency	Inadequate diet Following acute infections, measles and diarrhoea	• adequate dietary intake of vitamin A If not available, provide vitamin A fortified food If this is not possible, vitamin A supplements • immunization against measles. Systematic prophylaxis for children, every 4 - 6 months
Anaemia	Malaria, hookworm, poor absorption or insufficient intake of iron and folate	• prevention/treatment of contributory disease • correction of diet including food fortification

Tetanus	Injuries to unimmunized population Poor obstetrical practice causes neo-natal tetanus	• good first aid • immunization of pregnant women and subsequent general immunization within EPI • training of midwives and clean ligatures scissors, razors, etc.
Hepatitis	Lack of hygiene Contamination of food and water	• safe water supply • effective sanitation • safe blood transfusions
STD's/HIV	Loss of social organization Poor transfusion practices Lack of information	• test syphilis during pregnancy • test all blood before transfusion • ensure adherence to universal precautions • health education • availability of condoms • treat partners

[1]*Scabies: skin disease caused by burrowing mites*

Table 4 - Screening of New Arrivals - Reception Activities

a) HEALTH SCREENING	
Nutritional screening	Children 1 to under 5 years: Measure the mid-upper arm circumference (MUAC). Any children with MUAC below 12.5 cm should be immediately referred to health or nutrition services for weighing and measuring and for nutritional assistance if required.
Measles immunization	Children aged 6 months to 12 (or even 15) years: Immunize entire group and issue "Road to Health" or other immunization record card. Note: It is often inpractical to vaccinate at the same time as screening. However screening could be used to evaluate the vaccination coverage.
Vitamin A prophylaxis	Given along with measles vaccine, but should not delay measles vaccination if vitimin A is not available.
Basic curative care	As required: On-site first-line care for dehydration, respiratory infections, presumed malaria, trauma, and other life threatening conditions. Referral to existing health care facilities.
b) DEMOGRAPHIC SCREENING	
Population estimation	Everyone: Estimate total population broken down by sex and age (0-4, 5-14, 15-44, and 44 years and over) Estimate numbers of vulnerable persons such as children up to 5 years old, pregnant/lactating women, handicapped, female heads of households, single women, and unaccompanied minors.

Table 5 - Approximate Staffing Levels for Refugee Health and Sanitation Services for a Population of 10-20,000

Community Health Worker	10-20
Traditional Birth Attendant	6-10
Public Health Nurse	1
Clinic Nurses Midwives	3-4
Doctors/Medical Assistants	1-3
Pharmacy Attendant	1
Laboratory Technician	1
Dressers/Assistants	10
Sanitarians	2-4
Sanitation Assistants	20

Table 6 - Site Planning Figures for Emergencies

RESOURCE	HOW MUCH YOU WILL NEED
Land	30 - 45 m^2 per person
Sheltered space (tents, or other structures)	3.5 m^2 per person
Fire break space	A clear area between shelters 50 m wide should be provided for every 300 m of built-up area. A minimum of 1-1.5 m should be provided between guy-ropes of neighboring tents on all sides
Roads and walkways	20-25% of entire site
Open space and public facilities	15-20% of entire site
Environmental sanitation	1 latrine seat per 20 people or ideally 1 per family sited not farther than 50 m from user accommodations and not nearer than 6 m. 1 × 100 liter refuse bin per 50 people 1 wheelbarrow per 500 people 1 communal refuse pit (2 m × 5 m × 2 m) per 500 people
Water	15 - 20 liters per person per day of clean water
Tap stands	1 per 200 persons sited not farther than 100 m from user accommodations
Warehouse space	For food grains in bags, stacked 6 m high allow 1.2 m^2 of floor space per tonne
Food	2,100 kcal/person/day This will require approximately 36 metric tonnes/10,000 people/ week of food assuming the following daily ration:
	350-400 g/person/day of staple cereal 20-40 g/person/day of an energy rich food (oil/fat) 50 g/person/day of a protein rich food (legumes)

Table 7 - The Size of Things

Commodity volume per ton (m3/1,000kg)	Approximate	Standard package stacking height	Typical maximum
Water	1	none	n/a
Food grains/beans	2	50 kg bag	20-40 bags
Flour and blended foods	2	25 kg bag	20-30 bags
DSM in bags	2.4	25 kg bag	20-30 bags
DSM in tins inside cartons	4	20 kg/carton 4 tins/carton	8 individual cartons or 20 if palletized
Edible oil in tins inside cartons	2	25 kg/carton 6 tins per carton	8 individual cartons or 20 if palletized
Oil in drums	1.4	200 liter drum	2 drums upright with wood between the rims or 3 drums on their sides
ORS	2.4	35 kg carton	3-4 m
Mixed drugs	3.5	45 kg carton	3-4 m
Clinic equipment and teaching aids	4.5	35-50 kg carton	3-4 m
Kitchen utensils	5	35-40 kg cartons	3-4 m
Family tents	4.5	35-60 kg/ unit	4.5 m *
Compressed blankets	4.5	70 units/bale 85 kg/bale	4.5 m*
Loose blankets	9	unit	3-4 m

* where equipment for stacking allows

Table 8 - Capacities and Characteristics of Various Aircraft

Aircraft make or type	Volume* capacity in m^3	Weight* capacity in kg	Required* runway in m	Notes
Antanov AN-12	97	20,000	1,800	
Antanov AN-124	900	120,000	3,000	
Boeing B.707/320C	165	36,000	2,100	
Boeing B.747	460	100,000	3,000	
DC-3	21	3,000	1,200	
DC-6	80	11,000	1,500	
DC.8/63F	302	44,000	2,300	"stretch" version
DC.10/30F	412	66,000	2,500	
Fokker F.27	65	5,000	1,200	
Hercules L.100-30	120	15,000	1,400	Ramp for trucks, can land on earth/grass airstrips
Ilyushin IL-76	180	40	1,700	
Pilatus Porter	3	950	120	Small door
Skyvan	22	2,100	500	Ramp: can take Land Rover
Transall	140	17,000	1,000	Ramp for trucks
Twin Otter	12.4	1,800	220	Small door

*Note that the minimum length of runway required and the maximum load capacity both depend on the altitude of the airport and the temperature. Capacity is reduced for long distances as more fuel must be carried. Carrying capacity will also vary with the actual configuration of the aircraft.

Table 9 - Capacities of Various Surface Transport Means

Carrier Type	volume capacity in m^3	weight capacity in kg
Standard railway car	52	30,000
Standard sea/land container - 20ft/ 6.1 m	30	18,000
Standard sea/land container -40ft/12.2 m	65	26,000
Large lorry and trailer	Varies	20-30,000
Large articulated lorry	Varies	30-40,000
Medium lorry	Varies	5-8,000
Long wheel base Landrover or pickup	Varies	1,000
Typical water tanker	8	8,000
Hand drawn cart	Varies	300
Camel	Varies	250
Donkey	Varies	100
Bicycle	Varies	100

Table 10 - Conversion Factors

To convert from	To	Multiply by
Length		
Yards (1 = 3ft = 36 inches)	Metres	0.91
Metres (1 = 100cm)	Yards	1.09
Miles (1 = 1,760 yds)	Kilometres	1.61
Kilometres (1 = 1,000 m) The international nautical mile = 6,076 feet = 1.825 km	Miles	0.62
Area		
Yards^2 (1= 9 ft^2)	Metres^2	0.84
Metres^2 (1 = 10,000 cm^2)	Yards^2	1.20
Acres (1 = 4,840 yd^2)	Hectares	0.41
Hectares (1 = 100 acres = 10,000 m^2)	Acres	2.47
Miles^2 (1 = 640 Acres)	Kilometres^2	2.59
Kilometres^2 (1 = 100 ha)	Miles^2	0.39
Volume		
US gallons	UK gallons	0.83
UK gallons	US gallons	1.20
US (UK) pints	Litres	0.47 (0.57)
Litres	US (UK) pints	2.11 (1.76)
US (UK) gallons (1 = 8 pints)	Litres	3.79 (4.55)
Metres^3	Yards^3	1.31
Yards (1 = 27 ft^3)	Metres^3	0.77
Weight		
Ounces (oz)	Grams	28.35
Grams	Ounces	0.035
Pounds (lb, 1 =16 oz)	Kilos	0.454
Kilos (kg, 1 = 1,000g)	Pounds	2.21
US short tons (1 = 2,000 lb)	Metric tons	0.91
US long tons (= UK tons, 1 = 20 hundredweight (CWT) = 2240 lb)	Metric tons	1.02
Metric tons (MT, 1 = 1,000 kg)	US short tons	1.10
US long tons	UK tons	0.98
Temperature		
Centigrade	Fahrenheit	1.8 and add 32
Fahrenheit	Centigrade	Subtract 32 and multiply by 0.56
Weight of water (at 16.7° C, 62° F)		
1 litter = 1kg; 1 UK gal = 101 lb;	1 US gal = 8.33 lb; 1 ft^3 = 62.31 lb	

Table 11 - Radio Communications, Phonetic Alphabet

Letter	Phonetic Equivalent
A	Alpha
B	Bravo
C	Charlie
D	Delta
E	Echo
F	Fox-trot
G	Golf
H	Hotel
I	India
J	Juliet
K	Kilo
L	Lima
M	Mike
N	November
O	Oscar
P	Papa
Q	Quebec
R	Romeo
S	Sierra
T	Tango
U	Uniform
V	Victor
w	Whiskey
X	X-Ray
Y	Yankee
Z	Zulu

Table 12 -Typical Services and Infrastructure Requirements for Refugee Camps

1 latrine	per	1 family (6-10 persons)
1 water tap	per	1 community (80 -100 persons)
1 health centre	per	1 camp (of 20,000 persons)
1 hospital	per	up to 200,000 persons
1 school	per	1 sector (5,000 persons)
4 commodity distribution sites	per	1 camp module (20,000 persons)
1 market	per	1 camp module (20,000 persons)
2 refuse drums	per	1 community (80 - 100 persons)


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