

# Emergencies

## A CAMP INSTALLATIONS

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Concentrations of people in areas such as camps create environments which favour the propagation of diseases such as malaria, plague and typhus, and where there is a high risk of epidemics (e.g. cholera and other diarrhoeas). The higher the population density, and the less adequate and numerous the sanitary installations, the higher the health risks (Table 17.I).

**Table.I: Sanitary arrangements in a displaced-persons camp: infrastructure and layout to be planned depending on need.**

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*Access to housing*

Planning of the site, dwelling areas etc. (sanitary corridor, water points, access road)

Building of basic shelter

Distribution of building materials

*Access to water*

Transport by tanker and distribution via tapstands

Pumping and treatment of surface water in tanks, treatment and distribution via tapstands

Boreholes equipped with handpumps

Borehole equipped with a submersible pump with a distribution network

Wells

Gravity distribution system from a spring catchment

Distribution of jerrycans (1 per family)

*Access to basic hygiene facilities*

Latrines, showers, washing areas

Refuse pits

Vector control

Distribution of soap (approx 100 g/person/month)

*Access to health services*

Dispensaries, health centres

*Access routes, fire-fighting, drainage etc.*

Creation of access routes (tracks, paths, spaces between dwellings)

Firebreak

Site drainage

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# 1 Selection and planning of sites

When there is a choice of site, its selection must take account of all the possibilities of water supply and environmental sanitation (rainwater drainage, digging of latrine pits, site access). All environments which present problems (swamps, steep slopes etc.) should be excluded from the selection. The type of water supply is critical in determining the final choice of site.

Small-capacity camps (several thousand people) are to be chosen in preference to structures of very high capacity. Depending on the resources available for creating the camp, and the essential needs identified, camp development is planned by phases.

## 1.1 Guidelines

These values are summarised in Table 17.II.

**Table 17.II: Guidelines for planning camps (adapted from UNHCR 2003).**

Guidelines	
Dwelling area	
Total area of the camp (including access and infrastructure, 45 m <sup>2</sup> with small gardens included)	30 to 45 m <sup>2</sup> /person
Dwelling area	3.5 to 5.5 m <sup>2</sup> /person
Area per shelter (family)	14 to 30 m <sup>2</sup>
<i>Distances to be maintained</i>	
Between dwelling areas	15 to 50 m
To the water point	100 m
To latrines or showers	50 m
Between shelters	2 m
Firebreaks	30 m wide, every 300 m

## 1.2 Layout plan

Figure 17.1 shows an example of a camp layout that includes the dwelling areas (shelters), access routes, water-supply and sanitation infrastructure (drainage, latrines, showers and washing areas).

# 2 Emergency shelters

The first need of displaced people is to find refuge for themselves and their families, especially in harsh winter climates or during the rainy season. Generally, public buildings are immediately requisitioned to receive homeless people. But their capacity is quickly limited or saturated, so the people must build themselves shelters as quickly as possible.

Humanitarian agencies are usually asked to distribute tents or plastic sheeting to provide protection from the elements. In certain cases, agencies may support the construction of temporary shelters for the most impoverished, or help in the rehabilitation of existing buildings.

An example of an emergency shelter is the model shown in Table 17.III and Figure 17.2, developed in Liberia. Built of wood and matting, the shelter can house up to 20 people (5 x 6 m). Other types of shelter are also appropriate when they can be made of local resources and materials (wood, mud, leaves, woven matting etc.).

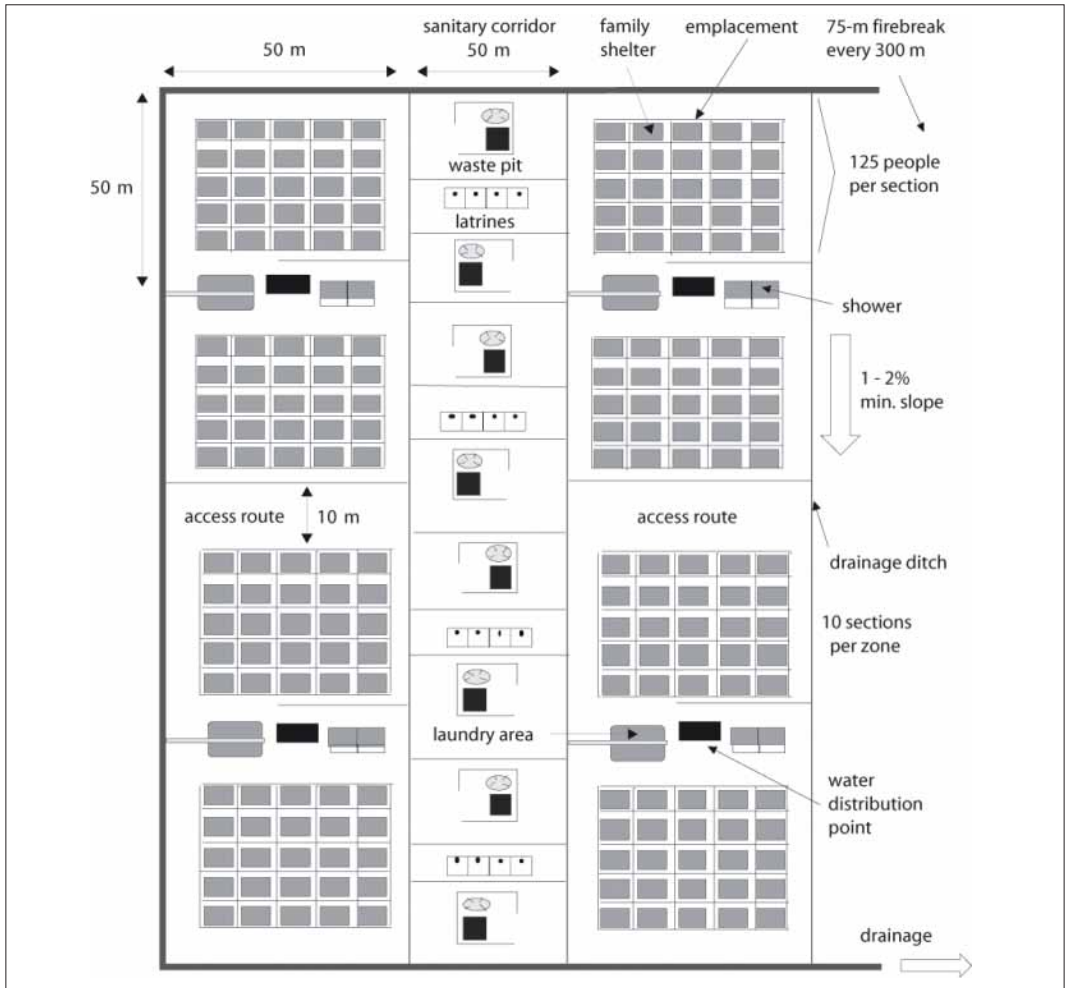
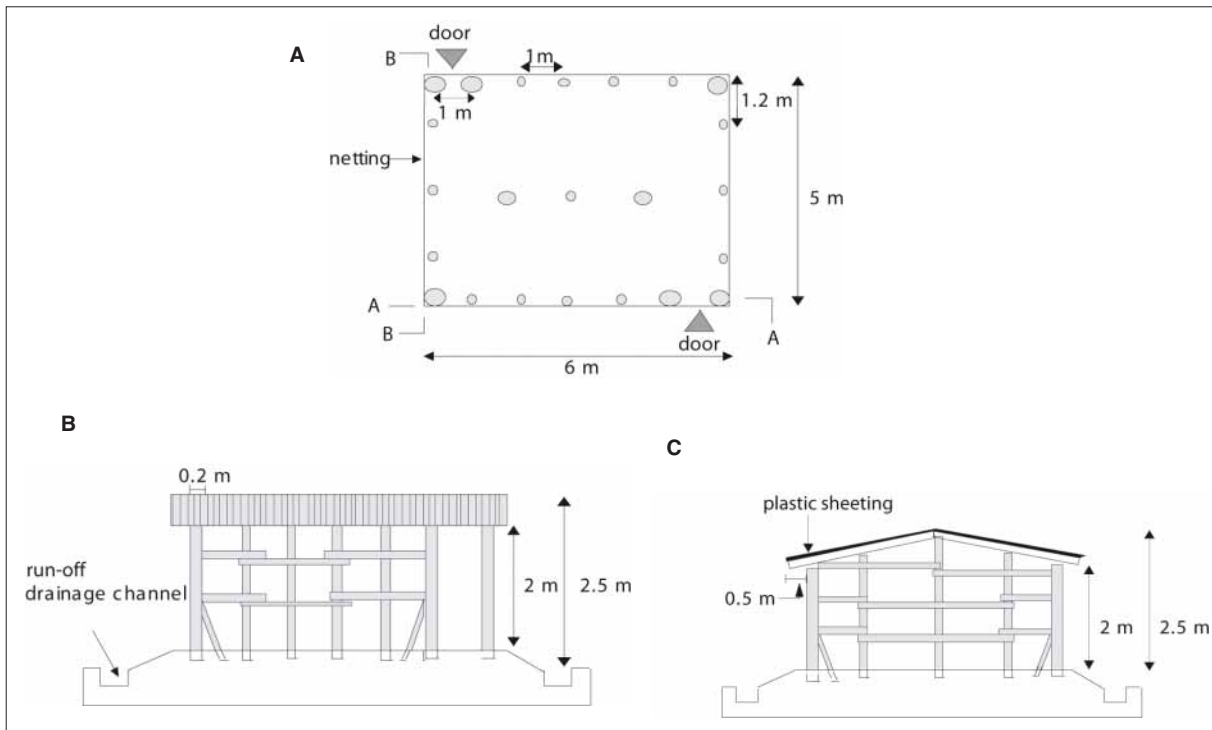


Figure 17.1: Layout plan of a camp (adapted from ACF, Rwanda, 1994).

Table 17.III: Characteristics and construction of emergency shelters for 20 people.

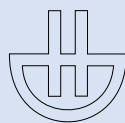
<i>Labour</i>	1 carpenter and 8 assistants for 6 days	
<i>Materials</i>	200 lengths of timber (3-m long, 0.07 to 0.15 m dia.) 10 to 12 kg nails 5, 8 and 10 cm 90 m <sup>2</sup> plastic sheeting or matting	
<i>Tools</i>	6 shovels, 6 picks 6 carpenter's hammers, 1 spirit level	30 m cord (4 mm dia.) 4 bow saws
<i>Construction</i>	Marking out the site area with stakes, digging drainage channels around the shelter, digging holes for poles (depth 0.40 m), spreading and ramming the soil removed, setting up poles maintained by oblique struts, stiffening with horizontal wooden braces  Roof construction with rafters every 20 cm in the direction of slope to avoid water pockets in case of rain (roof extending more than 0.50 m around the shelter), fixing plastic sheeting on roof and matting on walls	



**Figure 17.2: Plan of a collective emergency shelter (ACF, Liberia, 1994).  
A: plan of shelter. B: section A-A. C: section B-B.**

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# Water, sanitation and hygiene for populations at risk



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