

44. Emergency water supply

This is an overview of the principles of providing water in emergency situations. It outlines the planning procedures necessary for ensuring adequate supply, rather than focusing on design.

As well as food, shelter, and medical aid, providing clean water is usually one of the highest priorities in the event of an emergency. It should be considered alongside immediate sanitation measures, however, which are just as important in controlling many of the most common diseases found in disaster situations (see pages 21-24).

Responding to an emergency

At the time of an emergency, the first priority is to ensure that the population has access to water. This is often a challenge because many water supply systems are damaged or destroyed. It is essential to identify and protect any remaining water sources and to ensure that they are accessible to the population. This may involve setting up distribution points and providing transport for water to these points.

Water distribution

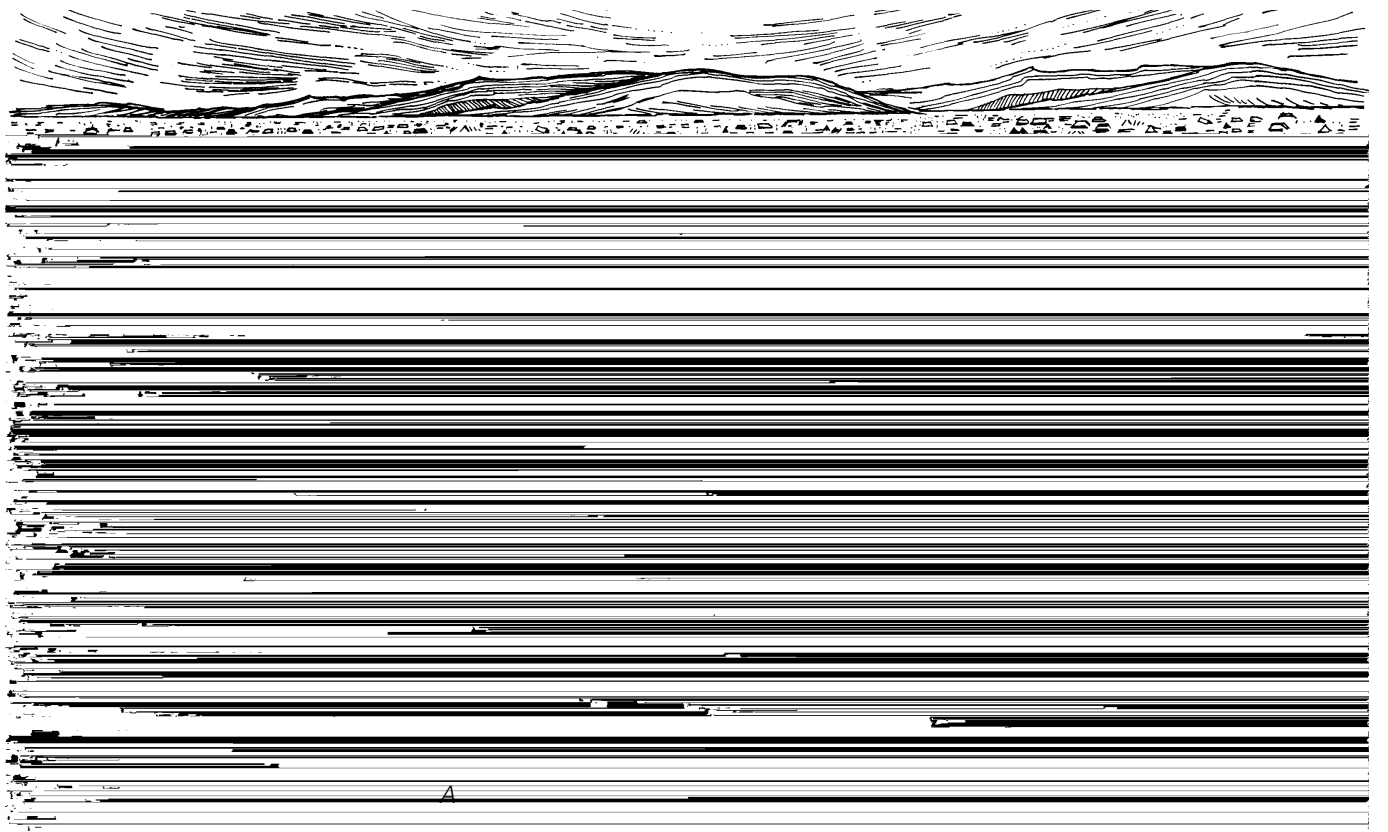
Water distribution is a critical component of emergency water supply. It involves the process of moving water from the source to the population. This can be done through a variety of methods, including hand-dug wells, protected springs, and surface water collection. The choice of method depends on the local conditions and the availability of resources. It is important to ensure that the distribution system is safe and that the water is protected from contamination.

Collection and storage

Water collection and storage are essential for ensuring that water is available when and where it is needed. This involves identifying suitable collection points and providing the necessary infrastructure to collect and store the water. This may include the construction of wells, springs, and storage tanks. It is important to ensure that the collection and storage systems are safe and that the water is protected from contamination. This may involve the use of filters and other water treatment technologies.

Planning what to do

- **Demand assessment**
Identify the population and their needs.
- **Location and protection of water sources**
Identify and protect any remaining water sources.
- **Water treatment**
Ensure that the water is safe to drink.



Emergency water supply

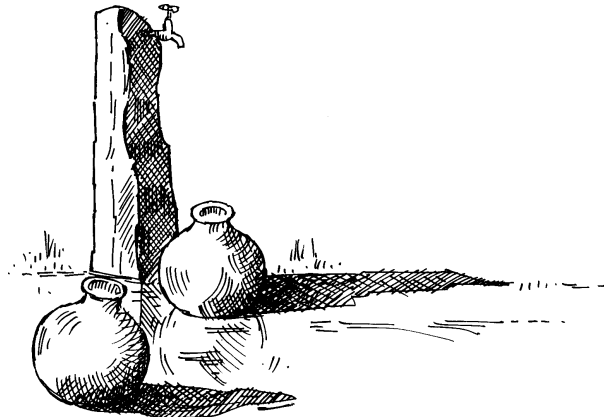
Demand assessment

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Location of water sources

Existing sources

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Local sources

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Distant sources

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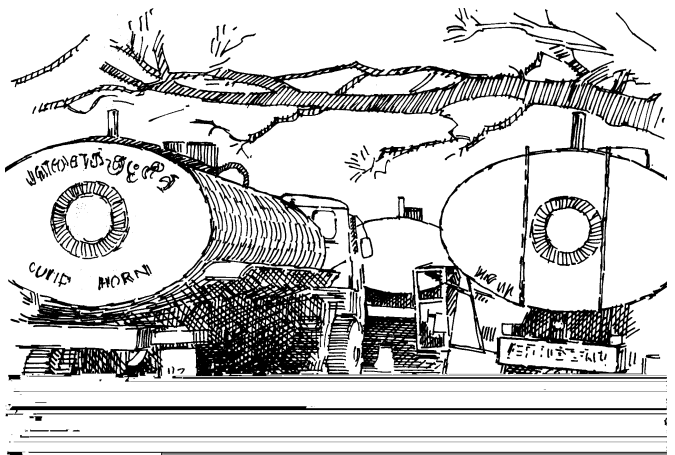
Table 1. A guide for assessing the demand for water in a disaster situation

<i>Individuals</i>	Minimum for survival	3 – 5 l/p/d
	Desirable emergency supply	15 – 20 l/p/d
<i>Health centres</i>	Out-patients only	5 l/patient/d
	In-patients (excluding cholera hospitals) (not including laundry)	40 – 60 l/patient/d
<i>Feeding centres</i>		20 – 30 l/p/d
<i>Toilet flushing water</i>	Pour flush latrines	2 – 8 l/p/d
	Cistern flush	40 – 50 l/p/d
<i>Animals (approx.)</i>	Cattle	20 – 30 l/h/d
	Horses, mules, donkeys	15 – 25 l/h/d
	Sheep, goats,	10 – 20 l/h/d
	Camels	2 l/h/d
<i>Irrigation</i>	Very variable, but typically	3 – 6 l/m ² /d

Allow at least 40% extra for unforeseen circumstances and waste.

A note about water quality

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■ Filtration

Filtration is a process of separating a mixture of a solid and a liquid. The solid particles are retained on a filter paper, while the liquid passes through it. For example, when you filter a mixture of sand and water, the sand is left on the filter paper, and the water is collected in the beaker below.

The filtrate is the liquid that has passed through the filter. In the example above, the filtrate is the water. The residue is the solid left behind on the filter. In this case, the residue is the sand.

