Household Water Container

Response Phase	Application Level	Management Level	Objectives / Key Features
** Acute Response ** Stabilisation ** Recovery	** Household Neighbourhood City	** Household Shared Public	Household water storage and transport
Local Availability	**Technical Complexity**	**Maturity Level**	
*** High	* Low	*** High	

Household Water Containers are lightweight plastic or metal Containers with a lid that can be carried by one person. They are most often used to carry water manually from the point of collection to the point of use (usually the home) (see S.8) and can also be used as storage Containers in the home. They are suited to all phases of an emergency.

Household Water Containers are produced in different sizes (most commonly 10–20 L) and shapes (typically round or rectangular). They should have a lid and may come equipped with a tap. They are an economic way to distribute water from tapstands to households. Jerrycans are a common type of Household Water Container, but there are also others containers that are used for both transport and storage (e.g., clay pots, buckets). Jerrycans are not ideal for carrying water, as they are difficult to fill and empty and can overstrain the back and shoulders.

Design Considerations: Manually transporting water in Containers is a reality for many rural and urban families in areas that lack household connections and rely on communal tapstands for their water supply. Water points should be a maximum of 500 metres away from households (in the acute response phase), with this distance being reduced over time. In an emergency, Sphere indicators suggest that every family should have access to at least two Containers with a capacity of 10–20 litres, one for transporting and one for storing water. Plastic Household Water Containers are preferred due to their lower cost, flexible shape, robustness and weight. Household Containers used for transport can be carried in different ways depending on the context (e.g. on the head, by the side, by bicycle, on donkeys or carts).

Household Containers are also used for storage. The amount of household water storage required may vary based on the reliability of the water supply and the number of people per household. As a guide, 4 litres of storage per person could be sufficient where water supply is reliable. It is important that the water storage method is safe from recontamination. For this, jerrycans have the advantage of a narrow opening that reduces the possibility of recontamination by forcing water to be poured from the container rather than allowing a cup to be dipped into it **(see H.1)**. In emergencies where water should be chlorinated **(see T.6)**, any recontamination that does occur during transport or storage should be dealt with by the

residual chlorine in the water. The type of Container has also been found to impact water quality in an emergency context, with opaque Household Containers (rather than transparent) preserving the residual chlorine longer, and dark-coloured Household Containers reducing algae build-up.

Materials: Containers used in an emergency are usually made of lightweight plastic polyethylene (PE) or polypropylene (PP), which are highly durable and shock resistant. These Containers are lightweight, though their bulkiness means that transportation of large quantities for distribution in an emergency requires a lot of effort. Collapsible plastic Containers do exist that require less space for transportation but have reduced lifespans.

Applicability: Household Water Containers are suited to all phases of an emergency. If house connections are re-established, Containers used for transporting water may not be needed after the recovery phase. Containers used for storing water within the household can also be improved during the recovery phase and beyond (e.g. constructing water jars with a higher capacity). Fixing the size of Household Water Containers, such as at 10 or 20 litres, simplifies training users in applying the correct dose of point-of-use chlorine **(see H.6)** using standard chlorine tablets sized for such volumes.

Operation and Maintenance: In an emergency, the water supply should normally contain residual chlorine to reduce any recontamination of water and biofilm build-up. Occasional cleaning may still be needed, and it is particularly advisable to clean all Containers during diarrhoea outbreaks to ensure they are not the source of recontamination. Removing biofilms can be difficult for jerrycans due to the narrow opening but can be done using an abrasive agent (e.g. sand or small stones shaken inside the jerrycan) followed by chlorination. Alternatively, shock chlorination (e.g. 50 mg/L) may remove most of a biofilm, which is performed by dosing a chlorine product (like sodium hypochlorite) into the water. To complete the cleaning process, it is important to de-chlorinate the Container before use. Cleaning of bucket-type Household Water Containers with lids is easier.

Health and Safety: Allocating different Containers for different tasks is important to avoid cross-contamination, especially where the same type of Container is used for both transport and storage (as they can get mixed up). This is not a problem where there is only one treated water source, but where there are contaminated sources also in use (e.g. when water for washing clothes is taken from an alternative source to the treated drinking water source), it is important to differentiate between the Containers, for example by labelling them using a specific sign corresponding to each water source. Household Containers should always be closed with a lid during transport to avoid (re-)contamination **(see H.1)** and should be thoroughly rinsed before each new filling. These recommendations should be highlighted through hygiene promotion **(see X.16)**. Transporting water can also be physically hazardous, especially where paths are steep or slippery. It may also cause musculoskeletal injuries if the Containers are too heavy or poorly designed for the user. Lifting blocks (in two steps) near the collection point can ease the process of lifting Household Containers where they are transported on the head **(see X.15)**. There are protection risks for women where the source is remote and insecure.

Costs: Buckets, jerrycans or other types of Household Containers are normally low cost but are often airfreighted in an acute response, greatly increasing this cost. In an emergency, they will need to be replaced according to the breakage rate (maybe 5 % per year), so there will be some small ongoing cost. There is also a non-financial cost to the use of Containers, since water transport is often carried out by women and is a role with possible physical risks as well as economic and educational effects where less time is spent on more productive uses **(see S.8)**.

Social and Environmental Considerations: In an emergency context, Household Containers are often distributed as part of Non-Food Item (NFI) distributions. Users should be consulted about their preference of Container where possible, especially for second-wave distributions once there has been enough time for consultation. For example, people who prefer to carry water by their side will have more difficulties with a round jerrycan compared to a rectangular one. Alternatively, some communities have also innovated means for transporting jerrycans that would make other types inappropriate, such as attachments that would allow round jerrycans to be rolled but would not fit with rectangular jerrycans. The use of good quality water Containers with an extended lifespan should be promoted to avoid generating unnecessary waste. Care should be taken to assure the environmentally friendly disposal of water Containers once they are no longer usable.

Strengths and Weaknesses:

⊕ Universally available and robust
⊕ Come in many different designs and capacities
⊕ Are very low cost

⊖ Can be difficult to clean
⊖ Have a risk of water recontamination when not cleaned or used properly
⊖ Are heavy for children and women to carry
⊖ Water transported by one person is sufficient to cover basic domestic needs for only one or two days

→ **References and further reading material for this technology can be found on page 219**