

Household practices

Collection, storage, treatment and handling

Household practices refer to each step in the drinking-water supply chain at the household level, including collection (and transportation), storage, treatment (if practiced) and handling, prior to consumption.

Drinking-water collection and storage containers should be clean and protected from environmental contamination. A typical household supply chain may include a collection (transportation) container, a bulk household storage container, and a final household storage container (which may or may not contain water treated at the household level).

Figure 1 illustrates the different stages of a common household supply chain when it is not delivered to the point of use. Although these figures represent a typical supply chain, different supply chains exist that may also be appropriate for the provision of safe drinking-water. (Note: This form may be adapted for use in piped supplies where intermittent service necessitates the presence of household bulk storage tanks.)

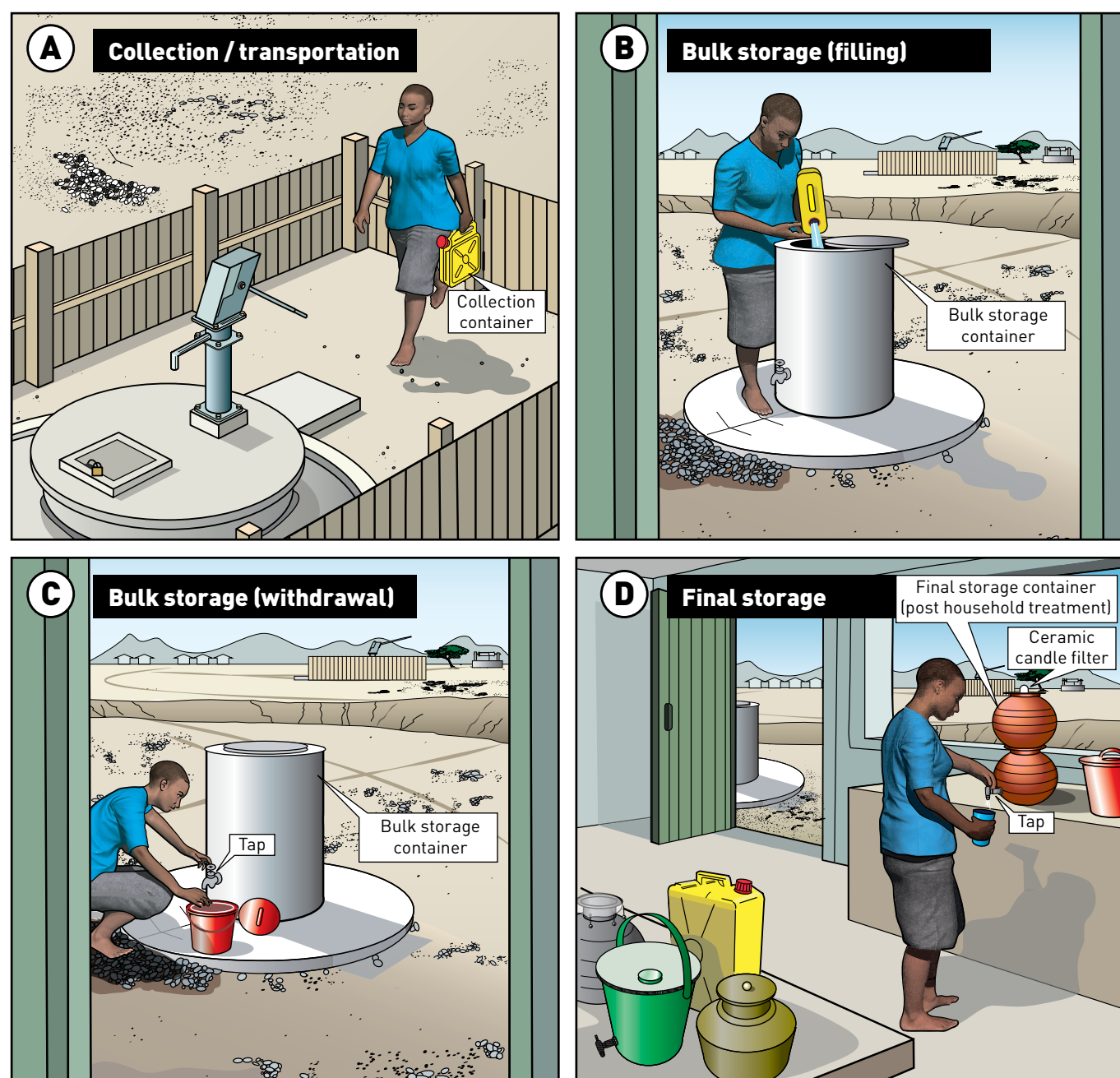


Figure 1 A common household supply chain consisting of (A) collection (and transportation) (B & C) bulk storage and (D) final storage (post household-level treatment, if practised)

Typical risks (or hazards) associated with household drinking-water supply chains are presented in the corresponding sanitary inspection form. Note that these risk factors do not represent all possible risks that may be present.

Drinking-water is often contaminated between collection and consumption. Care should be taken to collect, store, treat and handle drinking-water in a sanitary manner, including the use of appropriate and clean containers and utensils at each step of the household supply chain (see Figure 2).

The household collection, storage, treatment and handling of drinking-water usually involves use of the following main components:

- **Collection container:** Used to collect drinking-water from the source (e.g. dug well with hand pump or rainwater collection system) and transfer it to a bulk or final storage container. Containers should ideally have a narrow mouth and cover to minimize the risk of contamination during collection and transport.
- **Bulk storage container:** Used as an intermediary between the collection container and final storage container, a bulk storage container is typically of larger volume.

Ideally, the bulk storage container will be raised off the ground (e.g. either on a concrete pad or elevated stand), have a sealable lid or cover, and have an outlet tap to minimize the risk of contamination.

- **Household water treatment:** The drinking-water may undergo treatment at the household level prior to consumption, for instance filtration (e.g. ceramic candle) and/or disinfection (e.g. via chlorination, boiling, solar disinfection).^a

Turbidity reduces the efficacy of microbial treatment, thus turbid waters should ideally be treated through a combination of methods, such as flocculation/filtration followed by disinfection.

In addition, water contaminated by certain naturally occurring chemicals (e.g. arsenic, fluoride) can be successfully treated by household water treatment methods, although treatment technologies for these chemicals are relatively expensive.

Brackish or saline water sources and sources affected by agricultural chemicals or waste, or by poorly treated industrial wastewater, typically cannot be treated at the household level. In such cases, alternative sources of safe drinking-water should be used.

- **Final storage container:** Used to store smaller volumes of water after it has been collected from the bulk storage container and, in some cases, treated.

The final storage container is usually intended for day-to-day usage and is typically located within the household.

The final storage container should have a cover and tap to minimize the potential for contamination (particularly if the final storage container holds water that has been treated at the household level).

- **Tap or utensil:** Allows users to draw/collect water from containers with minimal wastage or risk of contamination. From a water quality perspective, a tap should be used where possible. Where utensils are used, ideally they will have a long handle to minimize the risk of contamination from the user's hands (e.g. a ladle), and they should be stored in a sanitary manner when not in use (e.g. stored in a clean, dry storage area raised off the ground).

Additional considerations for household drinking-water supply chains

All materials used for drinking-water collection and storage should be sturdy and safe for contact with drinking-water (e.g. PVC or ceramic), and should ideally be approved for drinking-water use via a certification scheme, where such schemes are in place.

Before a new container or tank is used to store drinking-water, disinfection is required (e.g. with a chlorine solution).^b

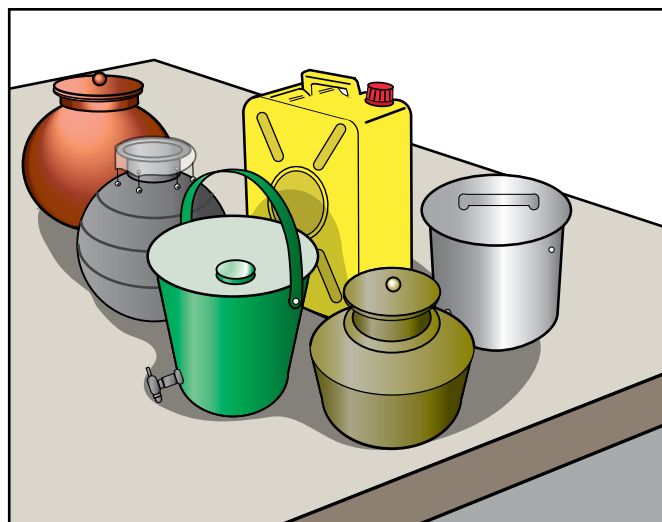


Figure 2 Examples of commonly used containers appropriate for storing drinking-water

- For a list of household water treatment technologies evaluated by WHO, visit: https://www.who.int/water_sanitation_health/water-quality/household/scheme-household-water-treatment/en/
- Guidance for disinfecting storage tanks may be found in *Technical notes on drinking-water, sanitation and hygiene in emergencies: Cleaning and disinfecting water storage tanks and tankers* (WHO/WEDC, 2013).