Kiosk

A. GENERAL INFORMATION

| A.1. Kiosk infor | A.1. Kiosk information | | | | | | | | | | |
|--|------------------------|--------------------|---|---|--|-------------------------|--|----------------------|---------|----------------------|---|
| Kiosk location (e.g. village, town, community, parish, district, pro | | | | | rovince, s | tate) | | | | | |
| | | | | | | | | | | | |
| Additional location information State the reference system and units, if using coordinates (e.g. national grid reference coordinates, GPS coordinates) | | | | | | | | | | | |
| Name of entity responsible for the management of the kiosk (e.g. name of water utility, private operator, community group) | | | | | | | | | | | |
| Source of kiosk water ^a Tick (✓) the appropriate box(es) and provide further informatio where applicable | | | | formation | Piped distribution networkOther. Describe (e.g. direct from borehole, river, water cart): | | | | | | |
| Tick (✓) the appropriate | | nated (e | in attendance ed (e.g. self- service nated payment) | | Servio | Service (opening) times | | | hours | | |
| Average volume of distributed from the per week (including | e kiosk | | | | | | Storage tank volume (including units) | | | | |
| Storage tank material Tick (✓) the appropriate box(es) and provide further information where applicable | | | le | □ Ductile iron (DI) □ Polyvinylchloride (PVC) □ Other. Describe: □ Ductile iron (DI) □ High density polyethylene (HDPE) □ Ferro-cement □ Concrete | | | | | | | |
| Tap material Tick (✓) the appropriate box(es) and provide further information where applicable | | | le | ☐ Brass ☐ Stainless steel ☐ Other. Describe: | | | | | | | |
| | | | | | | | | | | | |
| A.2. Weather conditions during the 48 hours before inspection Circle the temperature and precipitation options below to indicate the main conditions during the 48 hours before the inspection. More than one option may be circled if conditions changed during this time. Record additional information in Section C if needed. | | | | | | | | | | | |
| Temperature | | <0 °C | | 0-15 °(| | 5 °C | | 16-30 °C | | >30 °C | |
| Precipitation | | Snow | | Heavy rair | | /rain | | Rain | Dry | | , |
| | | | | | | | | | | | |
| A.3. Water quality sample information Record details of any water quality samples taken during the inspection. Include information for any parameters tested. Add NA if information is not applicable. Record additional information in Section C if needed. | | | | | | | | | | | |
| | | Sampl identif | | e Other information ication code | | | | | | | |
| No Yes (go to A.4) | | | | | | | | | | | |
| Parameter tested | Е. с | oli ^b d | Therr (faecal | mot l) co | colerant oliforms ^b | Additional parameter | | Additional parameter | | Additional parameter | |
| Results Units Resu | | Result | ts | Units | Results | Units | Results | Units | Results | Units | |

| A.4. Water treatment Tick (✓) the appropriate box(es) and provide additional information as needed. | | | | | | |
|--|-------------|------------|-------|---|--|--|
| Location | Is the wate | r treated? | | If Yes, describe (e.g. type of treatment, chlorine dose, frequency of dosing, if known) ^c | | |
| Before the kiosk (e.g. at a water treatment plant) | ☐ Unsure | ☐ No | ☐ Yes | | | |
| At the kiosk (e.g. on-site water treatment) | ☐ Unsure | □ No | ☐ Yes | | | |
| Downstream of the kiosk (e.g. household water treatment) | ☐ Unsure | ☐ No | ☐ Yes | | | |

- Carry out individual sanitary inspections for any sources of water that supply the kiosk (e.g. borehole, surface water, water cart, piped distribution network), and for household practices, using the corresponding sanitary inspection packages.
- The presence of *E. coli* (or thermotolerant [faecal] coliforms) suggests recent faecal contamination. If detected, further action is needed, such as increased disinfection before or at the kiosk, additional sampling and investigation of potential sources of contamination, and/or household water treatment advisories (e.g. boil water notice). *Note* thermotolerant (faecal) coliforms are distinct from "total coliforms", where total coliforms do not necessarily indicate recent faecal contamination.
- Where chlorine is applied, the free chlorine residual concentration in the drinking-water should be tested and the result recorded in Section A.3. Where possible, turbidity and pH should also be measured. For guidance on adequate chlorine disinfection, see the *Management advice sheet*.

General note

• This form is intended for use on a single kiosk. Where there are multiple kiosks to be inspected, additional forms will be needed. Kiosks may be inspected on a rotational basis where there are too many to cover during each inspection.

B. SANITARY INSPECTION

IMPORTANT: Read the following notes before completing the sanitary inspection

- Tick () the appropriate box for each question. For guidance, refer to the numbered risk factors in Figure 1; the numbers in the figure are linked to the questions. Record any additional risk factors present in Section C. Refer also to the Technical fact sheet for information on the individual components of the kiosk. Note the questions in this section are example risk factors only, which can be used as a starting point for adapting the form to the local context.
- 2. Tick the **NA** (not applicable) box if the question does not apply to the kiosk being inspected.
- 3. Tick the **No** box if the question does apply to the kiosk being inspected, but the risk factor *is not present*.
- 4. Tick the **Yes** box if the risk factor *is present*. For important situations that require attention, record the corrective actions to be taken in the last column. These notes can be used to develop a detailed improvement plan, documenting what will be done, who will do it, by when it will be done and what resources are required. For guidance, refer to the *Management advice sheet*. Where possible, address the most serious risk factors first, considering low-cost or no-cost improvements that can be made immediately.
- 5. If a question cannot be answered because access to a component is not possible, tick the **Yes** box. Record these issues in Section C for further investigation.

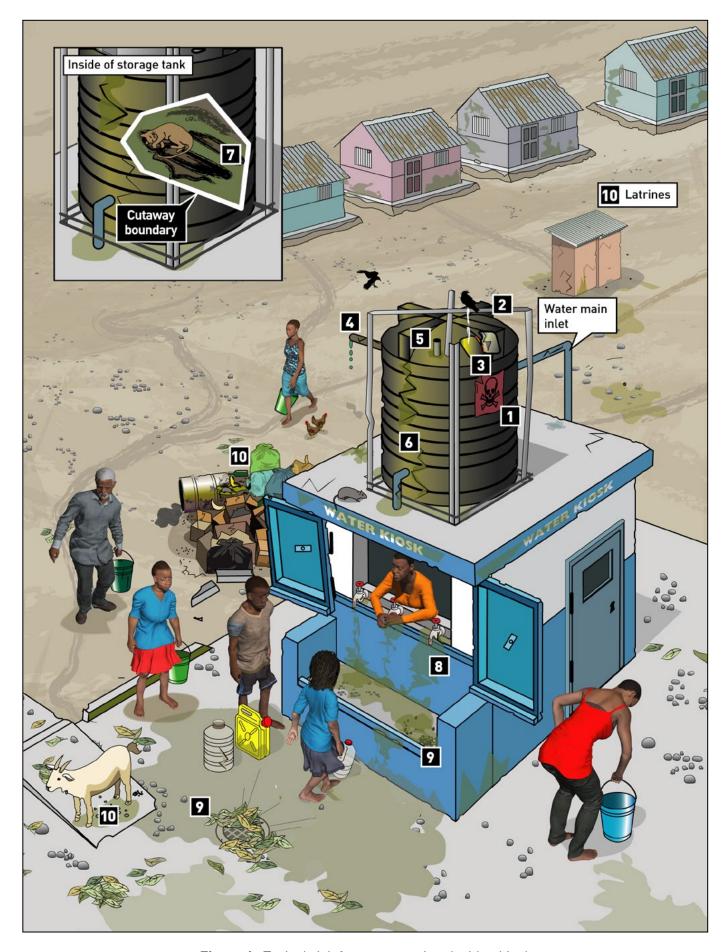


Figure 1. Typical risk factors associated with a kiosk

| Sanitary inspection questions | | NA | No | Yes | If Yes, what corrective action is needed? |
|-------------------------------|--|----|----|-----|---|
| 1 | Has the kiosk storage tank been used to store liquids other than drinking-water? Contaminants could enter the water if liquids other than drinking-water have been stored in the tank. This could include water of lesser quality, as well as human/animal waste, chemicals or fuels. | | | | |
| 2 | Is the storage tank cover (or roof) absent or in poor condition? Contaminants could enter the storage tank if the cover is absent. This could also happen if the cover is damaged (e.g. broken, missing sections, deep cracks). This is particularly likely after rain. | | | | |
| 3 | Is the storage tank inspection hatch lid missing or in poor condition? Contaminants could enter the storage tank (e.g. from the entry of contaminated water following rain, animals) if the inspection hatch lid is missing (or open, unlocked). This could also happen if the lid is damaged (e.g. deep cracks, severely corroded, does not fit tightly when closed). | | | | |
| 4 | Does the overflow pipe lack adequate protection from vermin? Contaminants could enter the storage tank (e.g. from insects, rodents, birds) if the overflow pipe is not covered with a vermin-proof screen (e.g. mesh, gauze). | | | | |
| 5 | Are the air vents poorly designed so that contaminants could enter the storage tank? Contaminants could enter the storage tank if the air vents are facing upwards, or are not covered with a vermin-proof screen. | | | | |
| 6 | Are the storage tank walls cracked or leaking? Contaminants could enter the storage tank if the walls are damaged (e.g. with deep cracks). A leaking tank could also result in stagnant water contaminating the kiosk area, as well as water loss. | | | | |
| 7 | Are there signs of contaminants inside the storage tank? The presence of animals or faeces inside the storage tank is a serious risk to the safety of the drinking-water, and indicates that harmful microorganisms are present. Sediments may also contain harmful microorganisms and other contaminants (such as metals) that can affect the safety or acceptability of the water. | | | | |

| Sanitary inspection questions | | NA | No | Yes | If Yes, what corrective action is needed? |
|---|---|----|----|-----|---|
| 8 | Is the kiosk tap dirty or in poor condition? Contaminants could enter the water if the kiosk tap is dirty. This could also happen if the tap is damaged (e.g. broken, severely corroded) or leaking. A leaking tap could result in stagnant water contaminating the area, and water loss. | | | | |
| 9 | Is drainage inadequate, which could allow water to accumulate in the kiosk area? Stagnant water could contaminate the collection area if there is no drainage system in place. This could also happen if the drainage system is damaged or blocked (e.g. from leaves, sediment). This is especially likely after rain. Note – the presence of pooled water during the inspection may indicate poor drainage. | | | | |
| 10 | Can sources of pollution be seen in the water collection area (e.g. open defecation, animals, rubbish, commercial activity, open drains)? The presence of animals or faeces on the ground close to the water collection area poses a serious risk to the safety of the drinking-water. Contaminants from other waste (e.g. household, agricultural, industrial) could be washed into the area during rain and contaminate the water during collection. | | | | |
| Is the kiosk excluded from routine maintenance and quality control programmes? ^d Failure of the responsible management entity to routinely inspect, maintain and monitor the quality of water at the kiosk may result in unsafe drinking-water being supplied. | | | | | |
| 12 | Does the kiosk water lack adequate disinfection? ^{c,d} Failure to adequately disinfect water with chlorine (or provide an alternative means of disinfection, such as ultraviolet [UV] light or ozone) can result in unsafe drinking-water being supplied. | | | | |
| | Total number of Yes responses | | | | |

Risk factor is not illustrated in Figure 1. To answer this question, interview the caretaker, operator or management entity as appropriate. Check activity log books for confirmation. Provide further information in Section C to support your answer if necessary.

C. ADDITIONAL DETAILS

| lnclude any additional risk factors, recommendations, obse (e.g. problems with the taste, odour or appearance of the wa and photographs if needed. | |
|--|-----------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| ^e These risk factors should be considered for future inclusion | n in Section B. |
| D. INSPECTION DETAILS | |
| Name of inspector: | |
| Organization: | |
| Designation/title of inspector: | |
| 2 | D-4- |
| Signature: | Date: |
| Name of water supply representative: | |
| Contact number (if available): | |
| Signature (if available): | Date: |
| World Health Organization Water, Sanitation, Hygiene and Health Unit | World Hoalth |

Water, Sanitation, Hygiene and Health Unit Avenue Appia 20, 1211 Geneva 27, Switzerland

Email: gdwq@who.int

Website: https://www.who.int/health-topics/water-sanitation-and-hygiene-wash



Kiosk

This technical fact sheet provides background information on a drinking-water kiosk, which supports the sanitary inspection of a drinking-water supply.

A kiosk provides drinking-water to users. A typical kiosk supply chain includes a water source (e.g. from a piped distribution network), a storage tank and a collection point for users to fill water collection vessels (e.g. a jerry can). Kiosks may treat the water on-site, or provide water that has already been treated (e.g. connected to a piped distribution network where the water has been treated at a water treatment plant).

Kiosks provide an interim approach to drinkingwater supply where water services, particularly piped supplies, are inadequate to meet all needs of users. Kiosks are commonly found in urban and peri-urban settings, as well as other areas that lack adequate service coverage (e.g. informal settlements, rural areas). Kiosk water should be appropriately treated/disinfected (e.g. with chlorine), and stored in a sanitary way before delivery to users (i.e. in a clean storage tank that is protected from contamination, with clean taps and fittings). If chlorine disinfection is practised, there should be an adequate free chlorine residual concentration to help protect the water from harmful microorganisms during household transport, storage and handling.^a

Figure 1 shows a common type of drinking-water kiosk that is supplied by a piped distribution network and has an on-site storage tank. This figure shows a typical design. Other designs can also provide safe drinkingwater.

The water collection area should be built so it is accessible for all users.^b

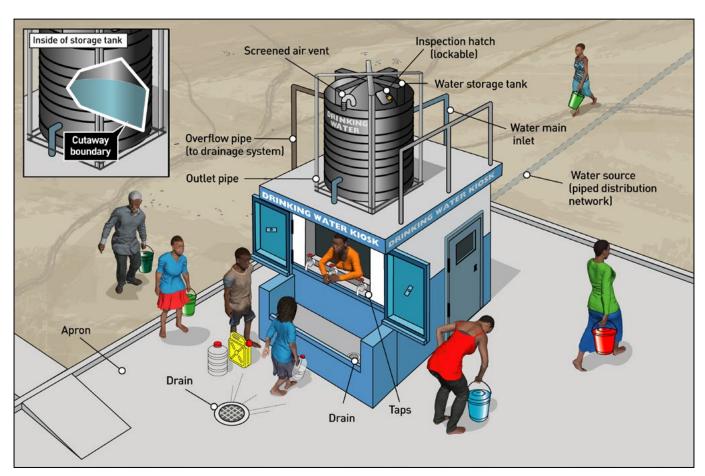


Figure 1. A common drinking-water kiosk in a sanitary condition

^a For guidance on adequate chlorine disinfection, refer to the *Management advice sheet*.

For guidance on designing accessible facilities, refer to <u>Water and sanitation for disabled people and other vulnerable groups:</u> designing services to improve accessibility (Jones & Reed, 2005).

Typical risk factors associated with kiosks are presented in the corresponding *Sanitary inspection form.*

Kiosks typically include the following main components.

- Water source: Typically provided from a piped distribution network, or from surface water or groundwater sources (e.g. river, borehole, spring). The source water should be treated/disinfected as required to ensure it is safe for human consumption.
- Water main inlet: Pipe that delivers drinkingwater into the water storage tank (e.g. from a piped distribution network).
- Water storage tank: Stores water at the kiosk prior to collection by users. The storage tank can provide a buffer to help ensure the continuity of supply (e.g. during intermittent supply in piped distribution networks). Storage tanks are commonly made from high density polyethylene (HDPE), polyvinylchloride (PVC), ferro-cement, metal or concrete. The tank should be covered and sealed to stop contaminants entering the storage tank. The tank should have a sump (not shown in Figure 1) to allow cleaning and maintenance. The sump should be located at the lowest point of the tank floor to ensure the tank can be drained completely.
- Storage tank inspection hatch: Allows access to the storage tank for inspection or operations and maintenance. The inspection hatch should have a lid that is tightly fitting and lockable to stop contaminants from entering the tank, and to stop unauthorized access by people. Note the inspection hatch may also act as a filling point if water is supplied to the storage tank by a water cart.
- Storage tank air vent: Allows ventilation in the storage tank. The air vent should be facing downwards and have a vermin-proof screen to stop contaminants entering the tank.
- **Kiosk tap:** Allows users to collect water from the kiosk in a sanitary way, minimizing water wastage or spillage. The tap also allows easy collection of water quality samples for analysis.

- Storage tank overflow pipe: Directs excess water from the storage tank to a drainage system. This stops the tank overflowing in an uncontrolled way, which could contaminate the kiosk area or damage components. The overflow pipe should be facing downwards and have a vermin-proof screen (e.g. gauze or mesh) to prevent contaminants entering the storage tank. Water from the overflow pipe should not erode the ground beneath the tank, as this could contaminate the kiosk area or damage its components. This could also result in water loss.
- Apron: A reinforced stone, brick or concrete floor built around the kiosk to drain water away from the collection area. The apron should slope down from the collection area to a drainage system. The apron also provides a standing area for users when collecting water.
- **Drainage system:** Directs water away from the kiosk to a drainage area or soakaway. The drainage system should slope down from the kiosk. This prevents water ponding and stagnating, which could contaminate the collection area.

Additional considerations

After a new kiosk is constructed, cleaning and disinfection of the components is required (e.g. with chlorine).^c Ideally, water quality testing should then be conducted before the kiosk is commissioned to confirm the water is safe for consumption. Periodic disinfection of the system and testing may also be required (e.g. after maintenance).

When constructing new kiosks or rehabilitating old ones, all materials used should be safe for contact with drinking-water (e.g. using materials approved through an appropriate certification scheme, including for lead-free or low-lead materials).

Kiosks may use advanced on-site drinking-water treatment technologies (e.g. packaged units with membrane filtration, ultraviolet light disinfection). Risk factors for these technologies should be determined in consultation with the appropriate technical advice and considering the manufacturer's guidance.

For guidance on disinfecting water storage tanks, refer to <u>Technical notes on drinking-water</u>, <u>sanitation and hygiene in emergencies</u>: <u>cleaning and disinfecting water storage tanks and tankers</u> (WHO & WEDC, 2013).

World Health Organization

Water, Sanitation, Hygiene and Health Unit Avenue Appia 20, 1211 Geneva 27, Switzerland

Email: gdwq@who.int

Website: https://www.who.int/health-topics/water-sanitation-and-hygiene-wash



Kiosk

This management advice sheet provides guidance for the safe management of a drinking-water kiosk, which supports the sanitary inspection of a drinking-water supply.

Guidance for typical operations and maintenance (0&M) activities is provided in Table 1, including suggested frequencies for each activity. These activities are important for keeping the kiosk in good working condition and protecting drinkingwater quality.

Table 2 lists potential problems that may be identified during a sanitary inspection, and provides basic corrective actions to consider for each problem.

This management advice sheet can also support routine management and monitoring practices, which are required to help ensure the ongoing safety of the water supply.



A. OPERATIONS AND MAINTENANCE

Basic 0&M can usually be carried out by a trained user, caretaker or operator (e.g. simple tasks such as cleaning kiosk area, checking the free chlorine residual concentration, cleaning the storage tank). Larger repairs and maintenance tasks (e.g. repairing the storage tank) may need skilled labour which can be provided by local craftspeople, or with support from outside of the local area.

The condition of the kiosk components should be inspected routinely to help prevent contaminants entering the water supply. Any damage or faults should be repaired immediately (e.g. damaged storage tank inspection hatch, leaking tap). Standard operating procedures (SOPs) should be developed for important 0&M tasks (e.g. inspecting the storage tank). These should be followed by trained individuals so the work is carried out safely and the water supply is not contaminated during the work.

The kiosk storage tank should only contain drinking-water – no other liquids, including water of lesser quality, should be stored in the tank. The storage tank should be periodically cleaned and disinfected according to SOPs.^a Taps and related fittings should be maintained in a sanitary way.

Use of multiple water sources for the kiosk may be required to ensure an adequate quantity of drinking-water to meet user needs. Adequate treatment/disinfection are required before consuming the drinking-water if any of the water sources are vulnerable to contamination, or if the water could be contaminated due to unhygienic storage and handling by the user during transport or in the home.

Where chlorine disinfection is practised, operators should have access to a chlorine testing kit. Operators should make sure there is an adequate free chlorine residual concentration throughout the tank by monitoring at regular intervals (see Table 1) and the results recorded (e.g. in a log book). As needed, batch chlorine disinfection of the storage tank water should be carried out to ensure that adequate chlorination is achieved (with all related activities conducted by trained operators according to SOPs). Chemicals (e.g. chlorine) or testing reagents should be used before their expiry date and stored appropriately according to manufacturer's instructions.

Kiosk operators should be trained to advise users on safe drinking-water collection practices (e.g. if a user comes to the kiosk with an unsafe drinking-water collection vessel).

For kiosks supplied by a water carting vessel, the kiosk operator should keep a log book to record the full details of each delivery, including: delivery date; driver's name; vehicle registration number; the water source(s) location; the volume of water received; and the free chlorine residual concentration in the water carting vessel prior to filling the kiosk storage tank.

Ideally, kiosk operators should be registered and/or licenced with the relevant authority who has responsibility for overseeing that training is provided and safe drinking-water management practices are being applied.

Table 1. Guidance for developing an operations and maintenance schedule

| Frequency | Activity | | | | |
|---------------------------------|--|--|--|--|--|
| Daily to weekly | Check and clean the kiosk facility, including the taps. Remove any polluting materials (e.g. faeces, rubbish). | | | | |
| | Where chlorination is practised, check that free chlorine residual concentration at the kiosk tap is adequate. Optimize the chlorine concentration before or within the water storage tank as needed (e.g. by increasing the chlorine dose at a water treatment plant, batch dosing the storage tank).^b | | | | |
| | Check that the taps are working. Repair or replace taps as needed, then clean and disinfect them (e.g. with chlorine). | | | | |
| | Check that the storage tank air vent and overflow pipe are in good condition. Ensure that protective vermin-proof screens are securely fitted and in good condition. Repair or replace damaged parts. | | | | |
| | Check that the inspection hatch lid is in place and in good condition, and is closed and locked securely. Repair or replace damaged parts, and lock as needed. | | | | |
| | Check that the inside of the storage tank is clean (e.g. free from animals, faeces, sediment build-up). Drain the tank as needed, then clean and disinfect it.^a | | | | |
| | • Check that the drainage system is clear and functioning. Remove debris or repair as needed. | | | | |
| Monthly to every three months | • Inspect the storage tank (and the tank support base if present) for signs of damage or failure. Repair or replace as needed. | | | | |
| As the need arises ^c | Drain the storage tank, remove sediment and clean the internal tank walls (e.g. using a brush and clean water), and then disinfect the storage tank (e.g. with chlorine).^a | | | | |
| | Monitor water distribution to identify changes (e.g. during periods of drought). | | | | |
| | Ensure procurement of any materials in contact with drinking-water and water treatment chemicals (where used) are safe for drinking-water use. | | | | |

- For guidance on O&M, including safely cleaning and disinfecting water storage tanks, refer to Technical notes on drinking-water, sanitation and hygiene in emergencies: cleaning and disinfecting water storage tanks and tankers (WHO & WEDC, 2013). This activity is required following a contamination event (e.g. presence of animals in the storage tank; *E. coli* detection). *Note* in water scarce areas, consult with local health authorities before draining a storage tank to make sure that the risk to water quality justifies the loss of water. Alternative water supply arrangements may then be needed to ensure that users have sufficient water quantity to meet domestic needs.
- Where chlorine disinfection is practised, the free chlorine residual concentration should be at least 0.2 mg/L at the point of use. This means that the free chlorine residual concentration at the kiosk should be higher (e.g. at least 0.5 mg/L at pH less than 8 after at least 30 minutes contact time) this can allow for chlorine decay during user transport, and subsequent storage and handling at the household level. Note that chlorine effectiveness is impacted by several factors including turbidity, pH and temperature. Chlorine doses or contact times will need to be adjusted to ensure adequate chlorine residual concentrations based on the local context. The free chlorine residual concentration in the water should also consider user acceptability. For more information, refer to Technical notes on drinking-water, sanitation and hygiene in emergencies: measuring chlorine levels in water supplies (WHO & WEDC, 2013).
- ^c See Table 2 for potential problems that could trigger these activities.

General notes

- The suggested frequencies in Table 1 are a minimum recommendation. The frequency of activities may need to be increased depending on the local context. A suitable 0&M schedule should be made for each site, including who is responsible for performing the work. Completion of activities as per the 0&M schedule should be recorded, including additional details for any problems identified and corrective actions undertaken.
- Only people with relevant training and skills should undertake the activities in Table 1. Appropriate safety measures should be in place when entering a storage tank for inspection or maintenance. Safety risks such as storage tank collapse or asphyxiation should be appropriately managed. Care should be taken when handling disinfection products.
- For guidance on appropriate frequencies for monitoring (e.g. sanitary inspections, water quality testing), refer to Guidelines for drinking-water quality: small water supplies (WHO, 2024).

B. PROBLEMS AND CORRECTIVE ACTIONS

Each problem in Table 2 is linked to the same question number in Section B of the *Sanitary inspection form*. Where relevant, corrective actions should be completed by trained individuals according to SOPs. Where needed, develop awareness raising and education programmes, and if necessary, rules or regulations, to support safe drinking-water management in the context of the guidance provided in Table 2.

If problems are identified that represent an immediate threat to drinking-water safety (e.g. likely presence of faecal contamination in the water supply, positive *E. coli* detection), consider what immediate actions should be taken to minimize the risk to public health (e.g. advise users to seek an alternative safe drinking-water source, disinfect the water at the point of use).

Table 2. Common problems associated with a drinking-water kiosk, and suggested corrective actions

| Question | Problem identified | Corrective actions to consider | | | | | |
|----------|---|--|--|--|--|--|--|
| 1 | The kiosk storage tank has been used to store liquids other than drinkingwater, which could contaminate the water supply. | Stop the practice of storing other liquids in the tank immediately. Drain, clean and disinfect the tank (e.g. with chlorine),^a or replace the tank if deemed necessary (e.g. if the tank has previously stored animal or human waste, chemicals, petroleum products). Communicate the importance of only using the tank for drinking-water purposes. | | | | | |
| 2 | The storage tank is inadequately covered, which could allow contaminants to enter the tank. | Provide a temporary cover (e.g. impermeable plastic sheeting) to minimize contaminants entering the storage tank. Install or repair the tank cover tank as soon as possible. Drain, clean and disinfect the tank (e.g. with chlorine).^a | | | | | |
| 3 | The storage tank inspection hatch lid is missing (or open, unlocked), or it is in poor condition (e.g. deep cracks, severely corroded, does not fit tightly when closed), which could allow contaminants to enter the tank (e.g. via run-off, animals). | If the inspection hatch lid is absent or in poor condition, provide a temporary cover (e.g. impermeable plastic sheeting) over the inspection hatch to minimize the entry of contaminants. Repair or replace the hatch and/or lid as soon as possible. If the inspection hatch lid is open or unlocked, communicate the importance of closing and locking the lid securely when not in use. | | | | | |
| 4 | The overflow pipe is inadequately protected (e.g. with a screen) which could allow vermin to enter the storage tank and contaminate the water. | If the overflow pipe is unprotected, cover the pipe with a vermin-proof screen (e.g. gauze or mesh). If the overflow pipe screen is damaged (e.g. ripped, broken) or has wide gaps, replace with a functioning vermin-proof screen. | | | | | |
| 5 | The air vents are poorly designed (e.g. facing upwards) or unprotected (e.g. no vermin-proof screen), which could allow contaminants to enter the storage tank. | If the air vents are facing upwards, modify the vents so they face downwards. If the air vent screens are absent, cover the vents with vermin-proof screens. If the air vent screens are damaged or have wide gaps, replace with functioning vermin-proof screens. | | | | | |
| 6 | The storage tank walls are cracked or leaking, which could allow contaminants to enter the tank, or result in water loss. | If the storage tank is cracked or leaking, engage local craftspeople to repair or replace the storage tank as needed. Clean and disinfect the storage tank (e.g. with chlorine).^a | | | | | |

Table 2. ...continued

| Question | Problem identified | Corrective actions to consider | | | | | |
|----------|--|--|--|--|--|--|--|
| 7 | There are signs of contaminants in the storage tank (e.g. animals, faeces, sediment build-up) that could present a serious risk to water quality. | Remove the contaminants immediately if possible. Consider what immediate actions should be taken to minimize the risk to public health (e.g. advise users to treat the water before consumption). Drain, clean and disinfect the storage tank.^a Consider appropriate measures to minimize the risk of contamination entering the storage tank from this source in the future (e.g. install a storage tank cover if not present, lock inspection hatch lid). | | | | | |
| 8 | The kiosk tap is dirty or in poor condition (e.g. damaged, corroded, leaking), which could allow contaminants to enter the water during collection, or result in water loss. | If the tap is dirty, clean and disinfect the tap (e.g. with chlorine). If the tap is in poor condition, repair or replace the tap as needed, then clean and disinfect the tap. Communicate the importance of routine cleaning/maintenance to the operators. | | | | | |
| 9 | The drainage is inadequate (e.g. absent, damaged or blocked drain), which could result in stagnant water contaminating the kiosk area. | If a drainage system is absent, dig a temporary drainage channel to divert water away from the kiosk area. Construct permanent solution as soon as possible. If the drainage system is not working, consider whether maintenance is needed (e.g. repair, cleaning), or if deepening widening or extending is required. | | | | | |
| 10 | There are sources of pollution (e.g. open defecation, animals, rubbish, commercial activity, open drains) around the kiosk that could contaminate the water collection area. | Where practical, remove the pollution (e.g. remove animal faeces, rubbish). Communicate the importance of maintainin the kiosk area in a clean condition. Consult with local authorities and users to consider: appropriate actions to relocate or eliminate the source of pollution other actions to minimize the issue from occurring again (e.g. awareness raising, signage, enforcement measures) | | | | | |
| 11 | The kiosk is excluded from routine maintenance and quality control programmes. | Develop and implement an appropriate routine maintenance and quality control programme, liaising with the relevant authorities if appropriate. Where needed, ensure adequate provision is made for water quality testing equipment and consumables, alongside appropriate SOPs and training for operators. | | | | | |
| 12 | The kiosk water is not adequately disinfected. ^b | Develop the necessary SOPs and provide operator training on adequate disinfection practices (including on the use of free chlorine residual test kits where chlorination is practised, and turbidity and pH where possible). Ensure adequate provision is made to procure chlorine (or an appropriate alternative means of disinfection), along with water quality testing equipment and consumables for monitoring. Ensure disinfection is practised correctly and consistently, and is optimized through routine monitoring and water quality testing. | | | | | |

World Health Organization

Water, Sanitation, Hygiene and Health Unit Avenue Appia 20, 1211 Geneva 27, Switzerland

Email: gdwq@who.int

Website: https://www.who.int/health-topics/water-sanitation-and-hygiene-wash

