Tips for stockpiling water

Water is vital. As much as our world stops when the power goes out, the prospect of no water is much more dramatic. "Fortunately, you don't need an expensive inverter and batteries to stockpile water," says Chetan Mistry of Xylem Africa.

"Water is versatile and can last for a long time if stored responsibly," says Chetan Mistry, Strategy and Marketing Manager at Xylem Africa. "How you store your water depends on its uses: potable water for drinking or cooking requires much stricter management than non-drinking water for washing or irrigation, since water-borne diseases and parasites are among the most dangerous threats to human health.

"But it's not difficult to adopt basic water-management techniques, and everyone should look at some type of water storage, especially rainwater capture and water recycling systems. In a water-scarce country like South Africa, we mustn't wait for the taps to dry. We should look after our water, and storing water is a good way to appreciate the most precious resource on our planet."

You can store water for emergencies or to lower utility costs. Yet some mistakes could ruin your efforts and even create health hazards. To help avoid such situations, Xylem Africa suggests the following tips when stockpiling water.

Decide your needs. Do you need water to drink or cook? Do you need to keep your vegetable garden hydrated? Will a lack of water harm certain operations in your business?

Water serves many functions, so determine your priorities and stockpile accordingly. Some people can do with a few jugs of drinkable water, while others may need large storage tanks of non-potable water suited for other jobs. The consensus is that an adult drinks around 3 litres of water a day, and you can double that to cover cooking needs per person. If you are a business, monitor water consumption for a month to see where the most demand exists.

There are different ways to access water. The simplest is stockpiling water from a municipal supply or buying bottled water. Capturing rainwater is a very affordable way to capture large amounts of water, and some are fortunate to have access to boreholes.

You can also recycle water from your premises. Water used for washing dishes or clothes, for example, can be reused for irrigation, refilling toilet cisterns, or outdoor washing. With the appropriate filters, you also can make contaminated water drinkable. But avoid water contaminated with chemicals, such as water mixed with non-biodegradable soap, or bio-matter (such as food waste or faeces).

In theory, water can be stored indefinitely. But this requires starting with clean water, keeping it away from light and chemicals, using sterilised containers and avoiding future contamination. It is hard to do in practice—especially if the water is for drinking. Consider rotating water stockpiles every six months, and look at decontamination options such as filters, UV light or controlled quantities of chlorine. Don't assume that water with no taste or odour is safe: certain diseases (cholera) and chemicals (heavy metals) can linger in water without giving hints of their presence.

Many of these tips include maintenance, but it's worth emphasising again. Leaving water infrastructure to fend for itself will create disease. There is no starker example than the recent cholera outbreaks resulting from poorly-maintained treatment sites. And what applies to towns and cities also applies to individuals: poorly-maintained containers, pipes and filters will encourage bacterial and parasitic growths that are very dangerous to humans—sometimes even without directly consuming the water.

Purifying water

There are different ways to keep water pure, such as using filters, UV lamps or chlorine, though these will vary depending on the amount of water and how you plan to use it. You can also purify water by boiling it or adding small amounts of bleach. But note that most techniques only kill biological contaminants. Removing chemical contaminants requires special filters. And again, remember that contaminated water can still appear clean and odourless, so err on the side of caution.

The tricky thing about water is that it supports chemical and biological activities. Water also expands when it heats up or freezes, and it can degrade metals and certain plastics. Your containers have a big say on how long water stockpiles can be maintained. Outdoor containers should have adequate UV protection to stop sunlight from breaking them, causing chemicals to leach into the water. You can use containers made from concrete or metal. However, the most common options use plastics such as acrylonitrile butadiene styrene (ABS), high-density polyethylene (HDPE), and polycarbonate, treated for sunlight exposure.

Jugs and bottles used indoors should be kept out of sunlight. Glass is the best medium to store small amounts of water. You can also use containers made from food-grade high-density polyethylene (HDPE) plastics (called #2 plastics as they are stamped with a '2' inside a three-arrow triangle). Avoid plastics marked 1,3,6, and 7 as they are often weak and can cause chemical leaching into the water. And always sterilise containers before use.

When storing large amounts of water in tanks, you can consider adding pumps and pipes for easy access. It's wise to make this decision early as it will impact other choices, such as additional costs, where tanks will stand, the types of pumps and filters, and how you want to connect the tanks. For example, a tank system that irrigates your garden differs from one connected to your building's plumbing.

Many suburban homes already stockpile water in the form of swimming pools. Though pools are not the best way to store water due to evaporation, you can cover them for more longevity, and it's simple to add chlorine to fight off contamination. However, pool water is often unfit for consumption, as it is exposed and so you should filter and treat it before drinking. Also, watch out for over-chlorination, which could make the water dangerous for plants. But, generally, your swimming pool is a large and very convenient water container.

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