

PROBLEMS OF THE GLOBAL WATER CRISIS

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Annotation: *today, water scarcity problems are especially increasing in the world. Due to the lack of clean water, various problems and diseases are increasing. This article will focus on the problems of the global water crisis and its solutions.*

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Water affects our lives in countless ways. We use it to eat, to fuel our businesses, to keep our homes (and hands) clean... But less than 1% of the world's water supply is usable to us. The rest is saltwater, ice, or underground. And we have to make that <1% last for 8 billion people. The global water crisis is proof that we've come up dry: The latest reports from the WHO and UNICEF show that over hundreds of millions of people are caught in a cycle of thirst — one that feeds into the cycle of poverty.

The Global Water Crisis At A Glance:

- According to UN-Water 2.3 billion people live in water-stressed countries
- According to UNICEF, 1.42 billion people – including 450 million children – live in areas of high or extremely high water vulnerability
- 785 million people lack access to basic water services
- The WHO reports that 884 million people lack access to safe drinking water
- Two-thirds of the world's population experience severe water scarcity during at least one month of the year
- The Global Water Institute estimates that 700 million people could be displaced by intense water scarcity by 2030
- 3.2 billion people live in agricultural areas with high water shortages or scarcity
- Approximately 73% of people affected by water shortages live in Asia
- The global water crisis is a women's issue: In what UNICEF calls "a colossal waste of time," women and girls spend an estimated 200 million hours hauling water every day
- Diarrhea kills 2,195 children every day—more than AIDS, malaria, and measles combined—and can be caused by lack of access to clean water and sanitation services.

There's nothing more essential to life on Earth than water and our ability to overcome water scarcity. From Central Australia to sub-Saharan Africa and Asia's teeming megacities, water is scarce. People are struggling to access the clean water they need for drinking, cooking, bathing, hand-washing, and growing their food.

Water scarcity is defined as a water deficiency or a lack of safe water supplies. As the population of the world grows and the environment becomes further affected by climate change, access to fresh drinking water dwindles.

The impacts of water scarcity affect families and their communities. Without clean, easily accessible water, they can become locked in poverty for generations. Children drop out of school and parents struggle to make a living.

What's Causing The Global Water Crisis?

There are a number of root causes for our current water crisis, which in turn affect everything from harvests to public health. By addressing these causes, we can do better with the 1% we have.

Climate Change. Unsurprisingly, climate change is one of the main reasons behind the global water crisis. The areas most vulnerable to the impacts of climate change, such as Somalia's decade-plus of drought or increasingly severe monsoons in Bangladesh, are often water-stressed to begin with. As the climate crisis continues to deepen, those resources become all the more scarce. One of the main causes of climate change, deforestation, leads to "heat islands" that impact the surrounding land. In sub-Saharan Africa, for example, 80% of farmland has been affected by soil degradation due to climate-related droughts. On the opposite end of the spectrum, rising sea levels are salinating freshwater sources, meaning that they're no longer potable as-is.

Natural Disasters. Whether related to climate change or not, according to one UNICEF report nearly 75% of all natural disasters between 2001 and 2018 were water-related. This includes droughts, but also floods — which can destroy or contaminate clean water sources for communities. This not only cuts people off from clean drinking water, but also opens up the risk for waterborne diseases like diarrhea. The frequency of these events are expected to increase as we continue to feel the effects of climate change.

War and Conflict. The ongoing crisis in Syria has led to a well-developed middle-class country lapsing into a water crisis thanks to the destruction of its infrastructure. This poses a serious threat to public health for the millions of Syrians still living inside the country. Another protracted conflict in the Central African Republic has seen armed groups target village water-points and wells — much like hunger as a weapon of war, water can also be leveraged in times of violence.

Wastewater. Let's talk about contaminated water and the role it plays in the global water crisis: Sometimes water can be plentiful in an area. But whether that water is safe to drink...that's another story. Many areas of the world have poor systems for dealing with wastewater — water that is affected by human use, like washing dishes at home or used in an industrial process. At a global scale, 44% of household wastewater is reused without being treated, and 80% of wastewater overall flows back into the ecosystem without being treated or reused, which by the UN's numbers leaves 1.8 billion people using water that can be contaminated by feces, chemicals, or other contaminants that can prove toxic. Wastewater is one of the leading causes for many of the world's most pervasive diseases, including cholera, dysentery, typhoid, and polio.

Water Waste. Different from wastewater, water waste is what happens when we ignore dripping faucets, over-water our lawns, or ignore the free tap water served to us at a restaurant. Some of these may seem like minor inconveniences, but they add up: Speaking with VOX, water management expert Shafiqul Islam estimates that these minor annoyances can account for anywhere between 30 and 40% of a city's lost water. The

average family can waste 180 gallons per week, or 9,400 gallons per year, due to household leaks. Add this all up and we're looking at roughly 900 billion gallons of water lost annually.

In 2018, Cape Town managed to avert "Day Zero" — the day in which the city would need to turn off all water taps for its 4 million residents — by limiting water use and focusing on the necessities first.

Lack of Water Data. We know that data is never the most exciting entry on a list, but it's still key: UN Water reports a lack of water quality data for over 3 billion people around the world. These are usually in areas where other factors on this list are at play, meaning that they're at a credible risk for using non-potable water. Knowledge is power, and the only way we can ensure that we have a handle on the global water crisis is by ensuring that we know the health of all the world's rivers, lakes, and groundwater reserves.

Lack of International Cooperation On Shared Water Sources. Many bodies of water sit across two or more countries, meaning that they're effectively the subjects of joint-custody between nations. However, according to the latest update from the United Nations' Sustainable Development Goals, only 24 countries report that all internationally-shared rivers, lakes, and groundwater sources are covered by cooperative arrangements. This means that, if one country is following all of the protocol necessary to keep its side of a lake clean, that may be irrelevant if the waters on the opposite shore are not being treated with the same degree of care.

Lack Of Infrastructure. It's not that countries willingly mismanage their water supplies. Whether through deliberate destruction or unwitting mismanagement, many governments lack the infrastructure to properly invest in their water resources, allowing clean water to reach those that need it most. Losses related to water insecurity cost the US an estimated \$470 billion per year. While water infrastructure is a resource that has high financial implications, the value of water is taken for granted. As the UN notes in its High Level Panel on Water, water "is typically capital intensive, long-lived with high sunk costs. It calls for a high initial investment followed by a very long payback period."

Countless water points were left unusable due to violence, disrepair, and overuse in the Central African Republic with some water sources purposely contaminated by armed groups. Fortunately solutions don't necessarily need to be high-tech. We've brought clean water solutions to villages using manually operated "village drills," removing the need for electricity. They're also 33% cheaper than typical mechanized drills, and can be transported to remote areas and assembled on site.

Forced Migration and The Refugee Crisis Even before the crisis in Ukraine uprooted 10 million people, we were facing unprecedented levels of displacement. In many of the world's largest host communities, informal settlements for refugees create high-density areas of people, and can put pressure on available infrastructure. In many cases, people will cross the nearest open border to flee conflict or other crises, which often leaves them in areas that face similar climate events, or have similarly stressed resources. This is why water trucking — which is, effectively, exactly what it sounds like — is one of the key elements of Concern's emergency response plans.

Inequality and An Imbalance of Power. Even in high-income countries, water management isn't a priority as seen in budget allocations. It's not the most photogenic issue, especially when you're showing solutions in action, and "emergency food distribution" is a much easier concept to grasp compared to "watershed management." This has led to an unacceptable imbalance between those setting federal and local government budgets — and foreign aid budgets — and those who are in the direst need of clean water and adequate sanitation. In 2015, the UN reported that, underlying all of the barriers to solving the water crisis, was one simple fact: "The people suffering the most from the water and sanitation crisis — poor people in general and poor women in particular — often lack the political voice needed to assert their claims to water." This disparity in power and lack of representation has widened that chasm. Closing it is a critical step to ensuring clean water for all.

Access to clean water changes everything; it's a stepping stone to development. When people gain access to clean water, they are better able to practise good hygiene and sanitation.

Children enjoy good health and are more likely to attend school. Parents put aside their worries about water-related diseases and lack of access to clean water. Instead, they can focus on watering their crops and livestock and diversifying their incomes.

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