

In Gaza, water is life

## **Fresh water was scarce even before the war. Now the situation is dire.**

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Palestinians line up to collect water during the ongoing Israeli bombardment of the Gaza Strip in Rafah. (AP Photo / Hatem Ali)

“This war is making me a more grateful person. I am starting to appreciate every single small thing, like when I used to drink water any time I wanted.”

Bursts of rapid gunfire.

“And having it hot or cold.”

More gunfire.

Ahmad was leaving us a message, responding to our question about the lack of clean water in Gaza, when the sound of gunfire from an assault weapon drowned out his voice. "I need to go," he said, and his voice message cut out.

Ahmad is from Gaza City, born and raised.

There is a saying in the region: "Water is life." There is a belief, based on a passage in the Qur'an, that God created all living things out of water, so water is the essence of life.

The Bible has something to say about water in times of war: "If your enemy is hungry, give him food to eat; if he is thirsty, give him water to drink" (Prov. 25:21). These words are recognized as authoritative by Christians, Jews, and Muslims alike.

Water plays an important cultural role in Palestinian society. Aside from the obvious biological need for it, it is also an object of memory and longing. Although it is getting harder under Israel's coastal blockade, generations of Gazan fishermen have made their life on the water, even earning a reputation in times gone by for the fine fishing nets they produced and shipped around the world. (It is thought that the word *gauze* might be derived from *Gaza*.)

For the Palestinians expelled to the West Bank in 1948 from homes on the Mediterranean coast, the sea is a longed-for memory that cannot be touched from the Palestinian side of the separation barrier. Likewise, to the east, the Jordan River is beyond an ever-expanding bank of Israeli settlements, farms, and reserve lands. Then there are the springs and wells in the hills. They allow for life in dry climates. Water is life.

"The first parish priest of Gaza, 70 years ago, dug a deep well for the church and the school that would be constructed later." Bishop William Shomali described the well at the Holy Family Church in Gaza City. (This is the Catholic church where a sniper shot and killed Nahida and Samar Anton, a mother and daughter, in December.) Shomali is vicar general of the Latin Patriarchate of Jerusalem.

Digging the well "was a providential decision because it is providing some little water for 650 people who have been sheltering at the church for the last 100 days." Shomali said they had been rationing the scant diesel they had left to pump a little more water each day—water to use for washing and, after boiling and cooling it, for drinking.

Nearly 6,000 miles away in Washington, DC, Natasha Hall, senior fellow with the Middle East Program at the Center for Strategic and International Studies, is studying the water crisis unfolding in Gaza, a crisis which predates October 7 but which has now become a humanitarian emergency. Working with Wim Zwijnenburg, a Dutch researcher, Hall coauthored a December 2023 [report](#) with the human rights organization PAX.

“The current war,” Hall and Zwijnenburg conclude, “. . . has left a trail of destruction that is exacerbating the deplorable humanitarian conditions,” resulting in “direct impacts on water services” in Gaza, “with most of its civil infrastructure in rubble.”

On October 7, thousands of Hamas fighters entered Israeli villages near Gaza, murdered 1,200 Israelis, and dragged 240 hostages back to Gaza. Since then, Israel has launched a bombardment and invasion of Gaza. The Palestinian Ministry of Health has reported Palestinian casualties between 25,000 and 30,000 people, and the destruction to the built environment—homes, public buildings, infrastructure, and agricultural land—is pervasive and ongoing, all with significant impact on the availability of clean water.

According to the PAX report, before October 7, Gaza was getting its water from three main sources. Water purchased from Israel and delivered via three pipelines accounted for about 9 percent of Gaza’s clean water needs. Three seawater desalination plants produced about 11 percent. The primary source of water was a decentralized network of some 300 wells throughout the enclave, used to pump groundwater from the coastal aquifer. That water was treated in makeshift neighborhood desalination facilities—makeshift because under the Israeli blockade that started in the mid-2000s, Israel, with Egypt’s help, blocks imports of items that can be used for either civilian or military purposes, such as concrete and pipes. Gaza has been hampered from importing essential materials for building proper, licensable water facilities.

Even before the current war, the coastal aquifer in Gaza had become brackish, making 95 percent of Gaza’s groundwater undrinkable without treatment. That’s why desalination and treatment plants are so critical.

At the beginning of the war, Israel not only [shut off the water pipelines](#) but also blocked imports of fuel required to operate local pumps, desalination plants, sewage treatment plants, and water trucks. In short, it brought Gaza’s ability to access,

treat, and distribute water to a halt.

As the [Times of Israel](#) reported, water started flowing through the Israeli pipes again after a few weeks, albeit at reduced volume. Nevertheless, as Hall and Zwijnenburg point out, Gaza's clean water access has fallen to a catastrophic 5 percent of what it was before the war.

Prior to the several days of a negotiated cessation of conflict in late November, Gazans were reduced to an average of three [liters of water](#) per person per day, far below the World Health Organization's [subsistence standard of 15 liters](#) required even in emergency conditions.

Ahmad was living at his home in Gaza City when the war started. "After three days, there was an evacuation announcement. We went to my uncle's house." Ahmad has evacuated and relocated six times since the war started, crowding with multiple families into single-family homes.

"We've had no drinkable water at all." For Ahmad, finding water is a daily problem. "The water from the well in the house was so salty. It wasn't even good for having a bath. It hurt our skin."

Thirty years old as of November, Ahmad founded a digital art studio with his fiancée last year, and they were working on their first contract with a Saudi company when the violence exploded in October. He bought a house last year where he thought they would start their new marriage. The wedding was set for January 15.

Ahmad's new house is now a pile of rubble, and his childhood family home has been damaged in the bombardment. "I am currently living somewhere else with my parents, brother, and sisters. We are cut off from water, electricity, and food even. Sometimes I don't drink a drop of water in a whole day."

During this war, the well at the Holy Family Church has been an exception to the rule—a well that still operates and yields somewhat useful water. Shomali calls it a miracle: "The miracle is in the foresight of the priest to dig such a deep well."

But when it comes to water, mostly there are not miracles, just statistics.

Why has water production fallen to 5 percent? Reduced water from the Israeli pipelines is part of it, but the biggest issues relate to infrastructure and fuel.

By overlaying the locations of water facilities and infrastructure with satellite imagery of bombardment zones, Hall and Zwijnenburg extrapolated potential tallies of damaged water facilities: 103 out of 267 drinking water wells, 85 out of 176 pumps and towers, 76 out of 105 sewer networks, and 40 out of 141 desalination units. All are likely damaged or destroyed—and that’s based on numbers from back in December 2023. Nor does this include facilities damaged in ways that are not visible by satellite.

“This crisis is also about the lack of fuel and lack of internal access,” said Hall. “Fuel is required for many phases of water operations—pumping water from the ground, transporting water, and treating water. And water has to be treated to be drinkable in Gaza.”

Hall argues that the initial cutting off of water through pipelines, the blocking of fuel, and the destruction of water infrastructure add up to a [“siege of Gaza’s water.”](#)

Many of the ancient cities in this region grew around wells, a fact that points to an important reality: water is not just a natural resource but also a political object, especially in Israel-Palestine, where water is scarce.

In 1948–1949, Palestinians from hundreds of villages in what became Israel were expelled to Gaza, making the territory artificially and suddenly dense. In fact, it is one of the [most densely populated places](#) in the world, and a majority of its population are descendants of these refugees. Unsurprisingly, Gaza’s heavy demand on its own groundwater is unsustainable. Under this heavy usage, the water table dipped below sea level, causing seawater to seep in from the Mediterranean. This is one of the main reasons why 95 percent of the water is undrinkable without treatment.

There were other problems before the war, too. One in three Gazans collected their sewage in open pits. Medical professionals were already tracking a rise in kidney problems in Gaza stemming from contaminated and brackish water. These issues are connected, at least in part, to inequity—Gazans accessed about 80 liters per capita per day before the war, far less than the average Israeli’s daily consumption of [240 liters](#).

Why such a discrepancy? When Israel initiated its occupation of the Palestinian territories in 1967, it [put Palestinian water infrastructure under Israeli military control](#). In 1982, Israel transferred these assets to Mekorot, the state-owned water

company, which now operates a consolidated water management system across Israel, the West Bank, and Gaza, drawing water out of the ground in Israel and the West Bank into one centralized system.

Using this water, Mekorot's distribution system constitutes what [Amnesty International](#) and [+972 magazine](#) have called water apartheid, a regime under which Israelis and West Bank settlers have relatively unrestricted access to the water resources while their Palestinian neighbors in the West Bank and Gaza are on a ration.

Israel dismantled its settlements in Gaza and withdrew its occupation forces in 2005. Hamas seized control of the strip two years later. Since then, water infrastructure in Gaza has continued to degrade, even as Gaza's population has nearly doubled, from 1.3 million people in 2005 to 2.2 million people in 2023, according to the [Palestinian Central Bureau of Statistics](#). This compromised infrastructure has led to [spills](#) that pollute the groundwater in Gaza as well as in parts of Israel, making water a contentious issue along the border. Israelis have also complained about polluted water spilling from Gaza into the Mediterranean.

Palestinians often say that Israel used to allow just enough food and water imports into Gaza to keep them at subsistence nutrition. [An Israeli proposal to do just that](#) surfaced a few years ago—to count the minimum number of calories the population needed and to allow in only the minimum needed to prevent starvation.

This was all before the war. Now, many Palestinians believe that cutting off the flow of water into Gaza and destroying the territory's water infrastructure is a cynically opportunistic continuation of this policy of deprivation.

People need water for drinking, but it is also necessary for hygiene, cooking, and food production. The scarcity is not only affecting hydration levels—it is also harder (or impossible) to clean clothing, wash diapers, prepare food, bathe, wash hands, clean dishes, flush toilets, and extinguish fires. Naturally, the lack of water in Gaza is having spiraling health and environmental impacts.

Ahmad admitted he has only been able to bathe once every week or two. He is not alone. Bishop Shomali reported that many of those sheltering near the coast are using the sea for bathing, even though untreated sewage is flowing into the Mediterranean. Shomali is concerned: "The water situation is dramatic, and we expect many of our people after the war will be sick."



Devastating overcrowding has added to the open sewage in the streets, and Gaza's infrastructure has never had adequate plumbing. "Where there are thousands of people to a single toilet, a lot of people are just not using the toilet," said Hall. "So there is a lot of open defecation."

"The suffering is great when it comes to toilets. We are using traditional methods to clean ourselves. I don't want to go into the details," said Ahmad. "It's humiliating."

The population density in the south has virtually doubled as it now contains most of the population of Gaza, overloading the water and sanitation systems beyond the point of breakdown.

These conditions are especially difficult for many women and girls. For new mothers, producing breast milk while malnourished and dehydrated is nearly impossible, as is making baby formula when clean water is scarce. Managing a menstrual cycle or diapering babies and toddlers is fraught when there is little water to be used for laundry and bathing.

The lack of water and the dismal hygiene are triggering a health crisis. Ahmad said having to drink brackish water is typical across the territory, and it is resulting in widespread dehydration and other health complications, especially for children and the elderly.

"We're seeing the beginnings of starvation and famine," said Hall. "And skin diseases. Scabies and lice. We are seeing a huge increase in waterborne diseases, and humanitarians are rightly fearful that what we see in deaths will skyrocket."

According to a [mid-December report](#) from the World Health Organization, the number of cases of diarrhea was up 2,500 percent, and there were 150,000 cases of upper respiratory tract infections, along with a litany of other infectious diseases proliferating in the overcrowded living conditions. In mid-December, the Israeli newspaper *Haaretz* [highlighted the threat](#) these diseases pose to the Israeli hostages currently in Gaza and to the Israeli population as Israeli soldiers travel back and forth from Gaza.

Hospitals don't have the water they need, leading to an increase in serious infections. "People are at hospitals with little to clean or dress their wounds, and they leave and go back to crowded camps and get infected," said Hall.

The humanitarian organization Save the Children [has warned](#) that deaths from starvation and disease could soon exceed those directly stemming from the fighting and bombing.

“I was shocked when I looked in the mirror recently,” Ahmad recalled. “It was like looking at a different person. My skin was darker and drier.” His mouth sounded noticeably dry as he spoke.

He went on to say his skin is thinner than it used to be, and he is starting to see his bones under the surface. He thinks he lost about 40 pounds in four months. “I look so damn skinny. My fingernails are like glass—if I cut them they get broken like smashed glass.”

“[Many kids have become sick right now](#),” Ahmad said. “Flies and insects are covering many places. I’m afraid to go to the market because of the crowds. I don’t leave the house where I am now, so I don’t have to be in contact with diseases.

“One time, my family and I got really sick after drinking the water. I felt like I would throw up all my organs.” Ahmad’s sisters also got sick. “Their skin turned yellow and their stomach pain wouldn’t stop. It was a really bad experience for us, but it was still better than going without water at all.”

[Human Rights Watch](#) is one of several organizations to state that some of Israel’s actions related to water in Gaza may constitute war crimes.

One of Israel’s goals is to [remove Hamas from power](#), but shutting off the water pipeline deprived the entire civilian population, including the 47 percent who are children, of a resource necessary for life. Degrading water production is inherently indiscriminate. And more water infrastructure continues to be damaged or destroyed in the fighting.

International law addresses the targeting of water in times of war. Article 7 of the [Rome Statute of the International Criminal Court](#) classifies acts that intentionally deprive a population of “conditions of life” (i.e., water) as extermination. As the UN special rapporteur on human rights to safe drinking water and sanitation [stated in November](#), the Israeli policy of cutting water off in Gaza and the ensuing destruction of infrastructure was a perfect storm for widespread death by thirst and disease.



Degrading civilian access to water in war puts Israel in bad company. Some of the worst parties to the darkest wars of the last few decades—Bosnia, Sudan, Syria, and Yemen—have used water as a weapon of war, destroying water sources, bombing water infrastructure, and denying water to distressed populations.

On January 26, the International Court of Justice returned its ruling on the provisional aspects of the case brought by South Africa against Israel, alleging violations of the Genocide Conventions. Among other things, the ICJ ruled that Israel must "take all measures within its power to prevent . . . inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part." This ruling corresponds to a range of possible acts, from hampering the distribution of humanitarian aid to destroying water-related infrastructure.

"If you have water, you're going to get sick because it's bad. If you don't have water, you're going to get sick because you need water." Ahmad described the catch 22 Gazans are increasingly facing. It is a subversion of "water as life": this is water as death.

What needs to happen in the short term? Along with a growing contingency of religious, political, and humanitarian leaders, the PAX report calls for an immediate and permanent cease-fire as "urgently needed to protect the civilian population of Gaza."

The report details other measures too, insisting that Israel follow the [Geneva List of Principles on the Protection of Water Infrastructure](#) and other relevant international protocols. Humanitarian aid is urgently needed on a much larger scale than has been allowed to date, and humanitarian agencies need to be free to safely navigate within Gaza. Water trucks should be among this aid, but even more important is fuel for operating Gaza's remaining pumps, desalination plants, and wastewater facilities.

Long-term, political solutions are needed. The PAX report goes on: "Disjointed water and energy infrastructure supply chains, lack of sovereignty over water-related infrastructure, and protracted conflicts are unsustainable and fragile by nature." Water should never be weaponized or used as a bargaining chip. Palestinians need to be able to plan, build, maintain, and exercise sovereignty over their own water infrastructure as part of a larger political resolution in the region.

Like the 650 people sheltering at the church, gathered around their well, like Ahmad and his sisters whose futures are under the rubble and who yet are grateful for a simple glass of water, like the writer of Proverbs affirming that water is for everyone, we too should remember that water is life and act accordingly.