

Cities around the world should prepare for running out of water, experts say

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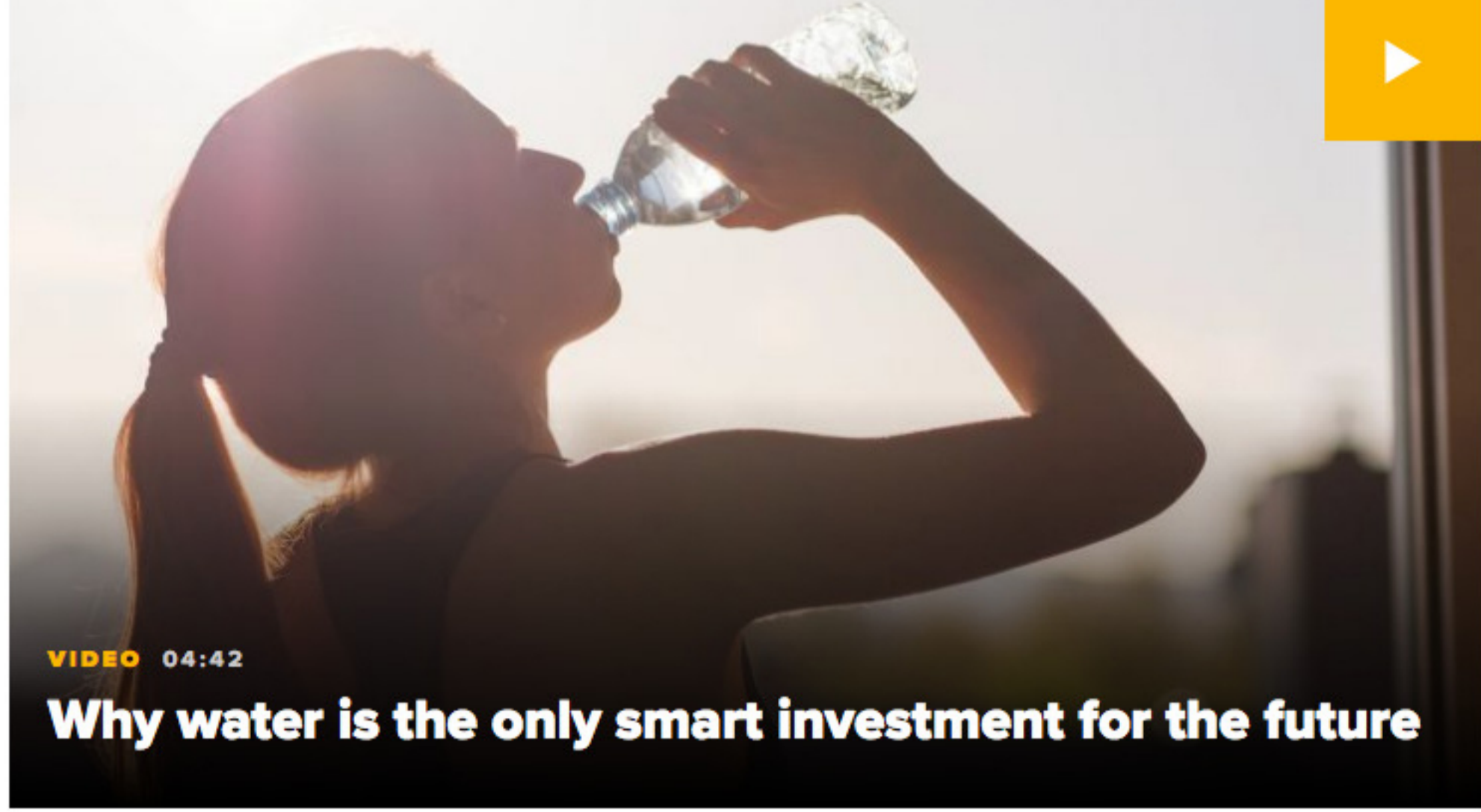
KEY POINTS

- Cape Town's recent water shortage crisis has raised global concern about the threat of water scarcity.
- The increasing risks have cast a spotlight on the issue of water theft and mitigation efforts.

It's called **"Day Zero"**: when Cape Town, South Africa's bustling port city, sees its water taps run dry, and its population thrust into a perilous situation.

Originally projected for this year, the impending crisis has been delayed in part by severe measures — the city instituted restrictions that amount to less than one sixth of an average American's water consumption. Yet despite that effort, "Day Zero" is still projected to [arrive next year](#).

And when it comes, the crisis will see the government switching off all the taps and rationing the resource through collection points.



That future isn't just Cape Town's. It's a scenario cities around the globe may face, experts say.

It may be hard to fathom just how cities could be at risk of a water scarcity crisis when approximately 70 percent of the world is made up of the resource. The stark reality, however, is that the percentage of fresh water probably only amounts to about 2.5 percent, according to often-cited assessments.



A public swimming pool, in a suburb of Cape Town has been emptied due to local water restrictions on March 6, 2018. Morgana Wingard | Getty Images

Even then, a significant supply is locked up in ice and snow, which means just 1 percent of all fresh water is easily accessible to the global population.

Inequality in access to water is also quickly becoming a problem. While the affluent can find ways to get access to water—through deliveries or in-built tanks — poorer populations are left to their own devices.

That situation oftentimes leads to water theft — for profit, for survival, or for both.

A 'wake-up call'

A nation's development has frequently come at the cost of undercutting its sources of clean water, Betsy Otto, director of the World Resources Institute's global water program told CNBC.

"For example, quite a bit of scientific evidence has shown that deforestation changed the hydrological cycle in the Amazon," she said.

Although water scarcity is a very real and pervasive problem, experts said most cities are not immediately at risk of running out of water.

Still, it is extremely important that water scarcity is acknowledged as a global problem because cities should begin working on unique solutions to local problems now, according to Rebecca Keller, a senior science and technology analyst at intelligence firm Stratfor

"It won't be the same exact scenario that Cape Town is facing," Keller said. "It might be pollution, drought, drier climates or significant population growth."



An Indian woman carries drinking water in steel and plastic containers, walking towards her temporary shelters in Rataiora Village on December 15, 2016. NurPhoto | Getty Images

The troubles faced by Cape Town should serve as a "wake-up call" for other countries about the realities of increasing [water stress](#), Otto said.

Water stress occurs when demand for the resource exceeds the available supply. It taxes the reserves and may lead to deterioration of fresh water resources.

In recent years, California [faced a drought](#) that lasted years, Australia survived the [millennium drought](#), and Sao Paulo faced a [water shortage crisis](#) in 2015 due to both drought and inefficient infrastructures.

Otto summed up the global state of preparedness for water scarcity, saying: "We've either under-invested in measures or allowed existing structures to fall apart."

Water theft

The [United Nations'](#) 2010 recognition of water as a human right has complicated the issue of water theft, said Vanda Felbab-Brown, a senior fellow in the foreign policy program at think-tank the Brookings Institution.

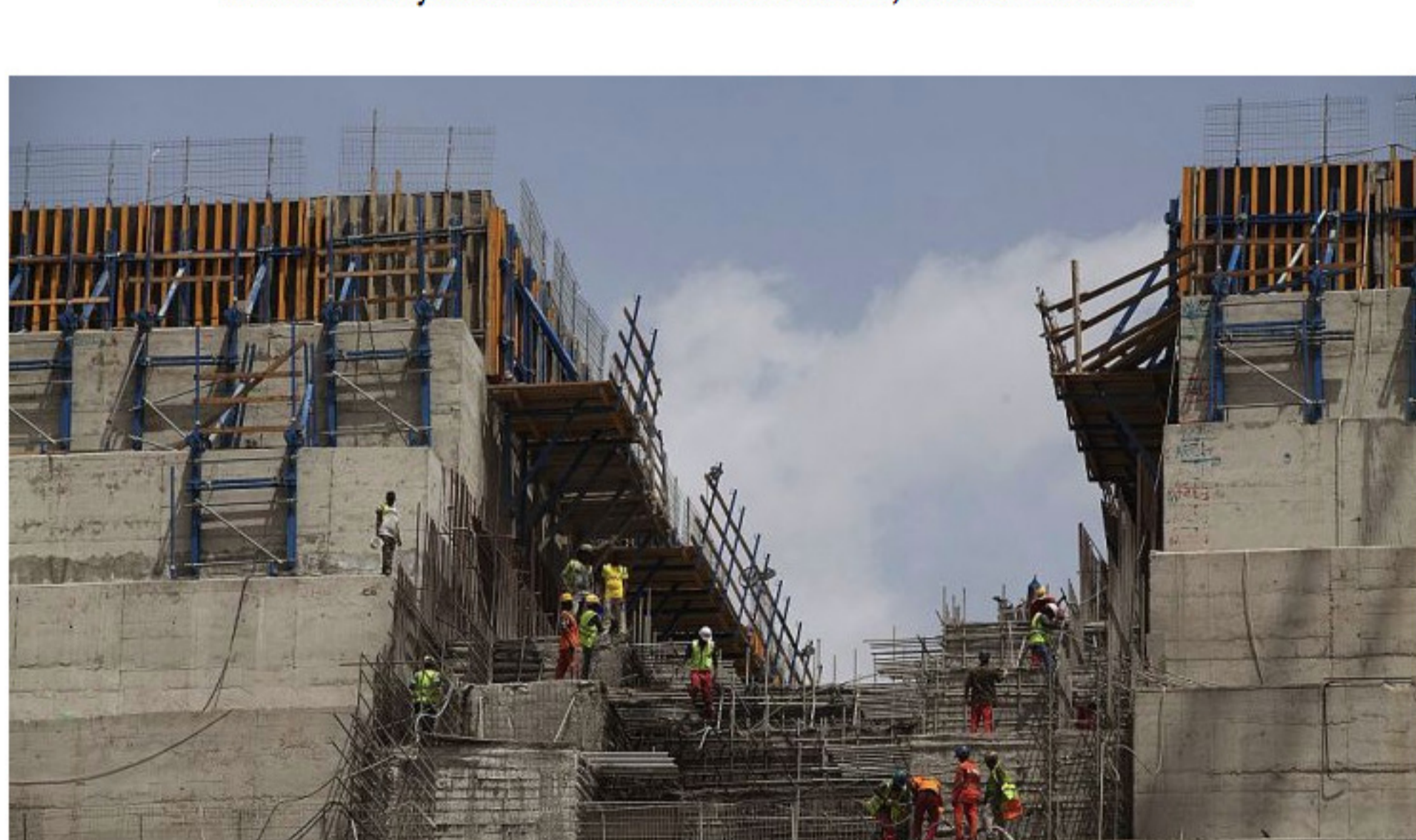
"The right to water does not mean the right to free water," Felbab-Brown explained, saying many people had misunderstood the UN. "In the same manner that people have to pay for food, they should expect to pay for safe water."

That sentiment hasn't stopped outright water theft on a large scale in countries like [Brazil](#), [India](#) and [Mexico](#). Companies and individuals illegally tap into pipelines and reservoirs, or they find other ways to avoid water meters.

There's no single solution to the issue, however, as the context of water theft varies between places, Felbab-Brown said. But, she pointed out, better law enforcement, water monitoring, and creating comprehensive databases, are good starting points for governments.

"Governments need to recognize that they can't just apply law enforcement without providing legal alternatives," she added.

As of now, water smuggling mostly operates within countries' borders, but it will eventually occur on an international scale, Felbab-Brown said.



Ethiopian construction workers working on the Grand Renaissance Dam near the Sudanese-Ethiopian border on March 31, 2015. Zacharias Abuhker | AFP | Getty Images

That could become a point of geopolitical tension between countries dealing with transboundary water issues, Keller said.

For an example of international water tensions, take the construction of the Grand Renaissance Dam in the Nile, a \$4 billion hydroelectric project financed by [Ethiopia](#). It's left [Egypt](#) fearing a [potential disruption](#) to its fresh water supply.

Controlling demand

Mitigating water scarcity has proven to be a tricky political subject because, in many countries, environmental or climate solutions tend to have a hard time gathering enough political support to become a reality.

It is also extremely expensive to build out new water supplies, dams and desalination plants.

"Unless there is an acute event — a severe drought for example — it is the [political] constraints that play out in a long time frame," Keller said.

Consequently, many governments have done little to guide their citizens on water-related behavior. That is, saving water will always be cheaper than building or drilling for new sources, Otto added.

"There should be two tiers of pricing. Conservation pricing, which charges the minimum amount for water that is sufficient for basic needs, should be provided at low rates. Discretionary water use, which is anything beyond the necessary amount, should be charged more," Otto said.

On a national level, she said, governments should encourage conversation about conservation issues. That is, saving water will always be cheaper than building or drilling for new sources, Otto added.

The good news, experts said, is there will be time for governments to start preparing for a Day Zero scenario.

"It's not going to be a surprise. The city is not going to run out of water suddenly," Keller said.