

The world faces a water crisis – four powerful charts show how

Hundreds of millions of people lack access to safe water and sanitation. Will decisions made at the first UN conference on water in nearly 50 years make a difference?

The United Nations water conference ended on 24 March. Co-hosted by the Netherlands and Tajikistan, the three-day meeting took place at UN headquarters in New York City and was the first such event in nearly half a century. During that time, a rising number of people around the world have gained access to safe water and sanitation (see ‘A tale of two halves’) – except in sub-Saharan Africa (see ‘The neglect of Africa’), where the number of people without safe drinking-water services is greater than it was in 2000. Globally, around 500 million people are compelled to practise open defecation, and millions more rely on contaminated water supplies. Has this conference paved the way for change?

Why did it take the UN 46 years to organize a conference dedicated to water?

The simple answer is that water (as a stand-alone topic) has not been high on the international sustainable-development policy agenda – at least, until now, says Rachael McDonnell, deputy director-general for research for development at the International Water Management Institute, based in Rome.

The first UN water conference took place in Mar del Plata, Argentina, in 1977. Representatives of 118 countries and territories met over 12 days and issued the Mar del Plata Action Plan, which recommended that countries achieve universal clean water and sanitation by 1990 to avoid a global water crisis by the end of the twentieth century.

Several low-income countries asked for financial support, but were rebuffed, and instead a study was proposed on how to finance water projects, as *Nature* reported at the time (R. Stein *Nature* **266**, 764; 1977).

In 2015, the international community set a 2030 target (under the UN Sustainable Development Goals, SDGs) for providing clean water and sanitation to all. As of 2020, however, some 2 billion people still lacked safe drinking water in their homes, and around one-third of people did not have basic handwashing facilities at home, according to data from the World Health Organization (WHO) and the UN children’s agency UNICEF (see go.nature.com/3lldydb). At current rates of improvement, 1.6 billion people will still lack safe drinking water at home by the 2030 deadline.

Water was not a priority for the September 2021 UN conference on food security, nor last year’s climate COP27 in Egypt, says Henk Ovink, the Netherlands’ special envoy for international water affairs. Water must have

a firm place in any follow-up UN process, he stresses. These include the UN Food Systems Stocktaking Moment that will take place in Rome in July, the SDG Summit in September in New York, and COP28 in Dubai, United Arab Emirates, in November. “We can’t wait another 46 years because what is happening is just too awful at the moment, and it’s going to get worse,” says McDonnell.

Where is the crisis at its worst?

The water crisis is worst in low-income countries – for example, an estimated 70% of the population of sub-Saharan Africa lacks safe drinking-water services.

A report published last week by UNICEF and the WHO (see go.nature.com/42y02xc) says that as many as 43,000 people might have died last year from drought in Somalia (see ‘Scorched Earth’).

Providing better access to water for health care and sanitation is an urgent priority. Too many people have no choice but to use contaminated water supplies (see ‘Faecal contamination’). In 2021, one in 10 health-care facilities worldwide had no sanitation services and some 857 million people had no water service at their health-care facility, according to an earlier joint report, also by the WHO and UNICEF, summarizing 20 years of data on water and sanitation (see go.nature.com/3ltw967).

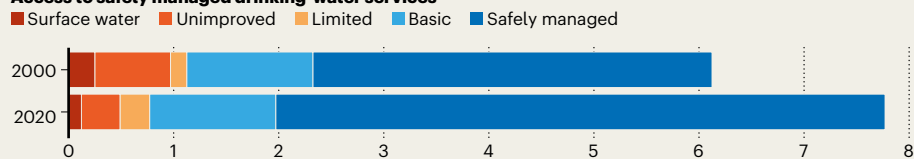
What happened at the conference?

Iraq became the first country in the Middle East to ratify the 1992 UN water convention, which promotes cooperation on the use and protection of shared waterways. Meeting delegates discussed a plan to appoint a high-level UN water envoy, and the idea of establishing a panel of water scientists similar to the Intergovernmental Panel on Climate Change (IPCC). There was also discussion on how countries that share water resources could communicate more effectively, including the launch of the Transboundary Water Cooperation Coalition at the end of last year. This will be particularly important for countries in the Middle East and North Africa. Around two-thirds “of the water resources in Arab states flow from outside of their national borders”, says Carol Cherfane, director of the Arab Centre for Climate Change Policies, a think-tank connected to the UN and based in Beirut. “A transboundary basin-level approach is very important, not as an instrument of

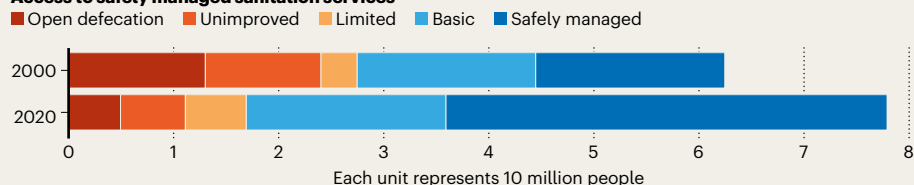
A TALE OF TWO HALVES

Between 2000 and 2020, more people around the world gained access to safe water and sanitation. But nearly 500 million people are still practising open defecation.

Access to safely managed drinking-water services



Access to safely managed sanitation services



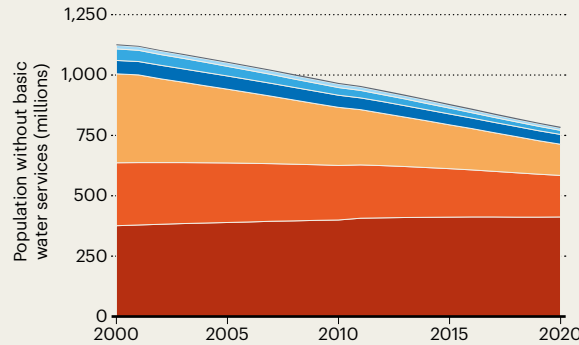
Access to safely managed drinking-water services. **Surface water:** Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal; **Unimproved:** Drinking water from an unprotected dug well or unprotected spring; **Limited:** Drinking water from an improved source, for which collection time exceeds 30 minutes for a round trip, including queuing; **Basic:** Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing; **Safely managed:** Drinking water from an improved source that is accessible on premises, available when needed and free from faecal and priority chemical contamination. Access to safely managed sanitation services. **Open defecation:** Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open places, or with solid waste; **Unimproved:** Use of pit latrines without a slab or platform, hanging latrines or bucket latrines; **Limited:** Use of improved facilities that are shared with other households; **Basic:** Use of improved facilities that are not shared with other households; **Safely managed:** Use of improved facilities that are not shared with other households and where excreta are safely disposed of *in situ* or removed and treated off-site.

SOURCE: WHO/UNICEF

THE NEGLECT OF AFRICA

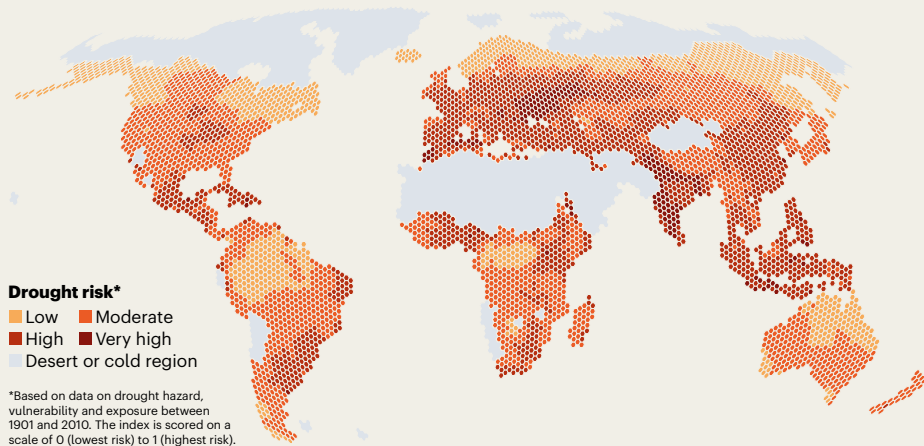
Sub-Saharan Africa is the only region of the world where more people are without basic drinking-water services now than in 2000.

- Oceania
- Europe and Northern America
- Latin America and Caribbean
- Northern Africa and Western Asia
- Eastern and South-Eastern Asia
- Central and Southern Asia
- Sub-Saharan Africa



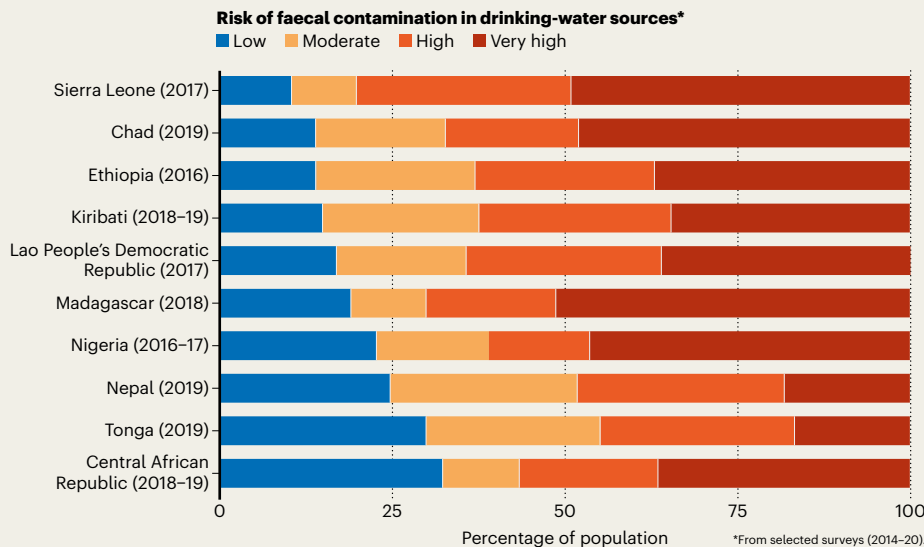
SCORCHED EARTH

Large parts of the world are at high or very high risk of drought, with most drought-related deaths occurring in Africa. The UN estimates that some 43,000 people might have died in Somalia last year because of a lack of rainfall.



FAECAL CONTAMINATION

These ten countries have high levels of exposure to faecal contamination in their water supplies. At least two-thirds of the population of each is unable to access uncontaminated water.



creating conflicts, but as an instrument of creating opportunity for conversations and cooperation and coordination.”

How is climate change affecting water resources?

Around half of the world’s population is already at risk of severe water scarcity for at least some of the year, according to the sixth assessment report from the IPCC, published last week (see go.nature.com/3szixnv). This number is likely to increase owing to the effects of climate change, such as heavy precipitation, flooding, drought and wildfire events. If global temperatures reach 1.5°C above pre-industrial levels, extreme agricultural (soil moisture) drought is expected to become twice as likely in many parts of the world.

Is the conference likely to lead to a legally binding water treaty?

The conference produced a ‘water action agenda’ containing more than 700 voluntary commitments. But there’s nothing binding, equivalent to the Paris climate agreement, McDonnell says. Moreover, there’s no leading UN body that is responsible for implementing and monitoring progress on SDGs involving water. Some countries did call for more funds, especially in the form of grants for projects such as seawater desalination and wastewater treatment. Much existing international support is provided as loans, says Omar Salameh, a spokesperson for Jordan’s water and irrigation ministry, based in Amman. “However, loans exacerbate the financial pressures on already-struggling economies,” he says.

There was also discussion of UN secretary-general António Guterres’s plan, announced at COP27, to create climate early-warning systems in all UN member states, so that countries are better prepared for extreme events. “Only half of our 193 members have proper early-warning services in place,” says Petteri Taalas, secretary-general of the World Meteorological Organization, based in Geneva, Switzerland, which is working with Guterres to implement the plan. “We need some US\$3 billion during the coming five years.” So far, around 10% of this has been raised, through different sources.

By Miryam Naddaf

SOURCE: WHO/UNICEF

SOURCE: IPCC

SOURCE: WHO/UNICEF