



# Tackling the global water crisis

The global water crisis threatens the well-being of billions of people and the stability of nations worldwide. Key drivers include unsustainable usage, climate change, pollution, lack of infrastructure, poverty, weak governance, and transboundary disputes. The multiple impacts span public health, food and energy security, economic growth, and geopolitical conflicts.

## GLOBAL WATER CRISIS

The United Nations predicts that by 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity. With the existing climate change scenario, almost half the world's population will be living in areas of high-water stress by 2030. In addition, water scarcity in some arid and semi-arid places will displace between 24 million and 700 million people. By 2030, water scarcity could displace over 700 million people.

The global water crisis stems from a confluence of factors, including growing populations, increased water consumption, poor resource management, climate change, pollution, and lack of access due to poverty and inequality.

The world population has tripled over the last 70 years, leading to greater demand for finite freshwater resources. Agricultural, industrial, and domestic water usage have depleted groundwater in many regions faster than it can be replenished. Agriculture alone accounts for nearly 70% of global water withdrawals, often utilizing outdated irrigation systems and water-intensive crops. Climate change has significantly

reduced renewable water resources in many parts of the world. Glaciers are melting, rainfall patterns have shifted, droughts and floods have intensified, and temperatures are on the rise, further exacerbating the crisis.

In many less developed nations, lack of infrastructure, corruption, and inequality leave large populations without reliable access to clean water. Women and children often bear the burden of travelling distances to fetch water for households. Contamination from human waste, industrial activities, and agricultural runoff also threaten water quality and safety.

Water shortages hamper economic growth and worsen poverty. Hydroelectricity, manufacturing, mining, and other water-intensive industries suffer. The World Bank estimates that by 2050, water scarcity could cost some regions 6% of gross domestic product (GDP), entrenching inequality. Climate migration strains nations. Overall, water crises destabilize societies on many levels if left unaddressed.

Water scarcity poses risks to health, sanitation, food production, energy generation, economic growth, and political stability worldwide. Conflicts over shared water resources are likely to intensify without concerted global action.



▲ *Water shortages hamper economic growth and worsen poverty*



Water security, or reliable access to adequate quantities of acceptable quality water for health, livelihoods, ecosystems, and production has become an urgent issue worldwide.

This crisis has far-reaching implications for global health, food security, education, economics, and politics. As water resources dwindle, conflicts and humanitarian issues over access to clean water will likely increase. Climate change also exacerbates water scarcity in many parts of the world. Addressing this complex and multifaceted crisis requires understanding its causes, impacts, and potential solutions across countries and communities.

### MITIGATING WATER RISKS

Shifts in the hydrological cycle increase exposure and vulnerability of economies and communities to water risks, globally. Financial institutions and regulators are increasingly aware of the financial materiality of climate and nature risks. A similar awareness about water is nascent and should be encouraged. Pioneer work from the Dutch Central Bank documents how financial institutions in the country are exposed to flood risk. Disclosure of exposure and vulnerability can drive change in corporates' behaviour and their financiers. However, there are benefits and limitations of voluntary approaches, and it might be time to consider the potential benefits of more mandatory regulatory or policy frameworks.

As stressed by Ngozi Okonjo-Iweala, Director General of the WTO, "our new economics of water must be guided by a fundamental commitment to water equity". More accurate definitions of affordability of water services, access of poor households and communities to finance, as well as innovative financing mechanisms would help to ensure equitable access to water. Debt-for-nature swaps, for example, contribute to financing water while addressing high-level of sovereign debt of emerging economies.

The UN Water Conference provides a historic opportunity to raise the ambition for water. The global community can deliver on high ambitions in relation to water, as new science can guide action, technologies are available, and finance is here to be channeled where it creates most value in line with the ambition of restoring the hydrological cycle. Beyond March 2023, the Roundtable on Financing Water will explore practical ways to deliver on and finance the commitments made at the UN 2023 Water Conference.

### SUSTAINABLE SOLUTIONS AND RECOMMENDATIONS

Tackling the global water crisis requires both local and international initiatives across infrastructure, technology, governance, cooperation, education, and funding.

*Firstly*, better governance through reduced corruption, privatization, metering, pricing incentives, and integrated policy frameworks could improve efficiency. But human rights must be protected by maintaining affordable minimum access.

*Secondly*, upgrading distribution systems, sewage treatment, dams, desalination, watershed restoration, and irrigation methods could improve supply reliability and quality while reducing waste. Community-based projects often succeed by empowering local stakeholders.

*Thirdly*, education and awareness can empower conservation at the individual level. Behaviour change takes time but can significantly reduce household and agricultural usage.

*Fourthly*, transboundary water-sharing treaties like those for the Nile and Mekong Rivers demonstrate that diplomacy can resolve potential conflicts. But political will is needed, along with climate change adaptation strategies.

*Fifthly*, emerging technologies like low-cost water quality sensors, affordable desalination, precision agriculture, and recyclable treatment materials could help poorer nations bridge infrastructure gaps. However, funding research and making innovations affordable remains a key obstacle.

*Finally*, increased financial aid, public-private partnerships, better lending terms, and innovation prizes may help nations fund projects. Cost-benefit analyses consistently find high returns on water security investments.

Sustainable solutions require combining new technologies, governance reforms, education, cooperation, and creative financing locally and globally. This crisis also presents opportunities for innovation, cooperation, education, and holistic solutions. With wise policies and investments, water security can be achieved in most regions to support development and peace. But action must be accelerated on both global and community levels before the stresses become overwhelming. Ultimately, our shared human dependence on clean water demands that all stakeholders work in unison to create a water-secure future ■

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(Source: OECD Environment Focus and Earth.org)