

Briefing paper

Critical Business Actions for Achieving a Water Secure World



unicef 
for every child

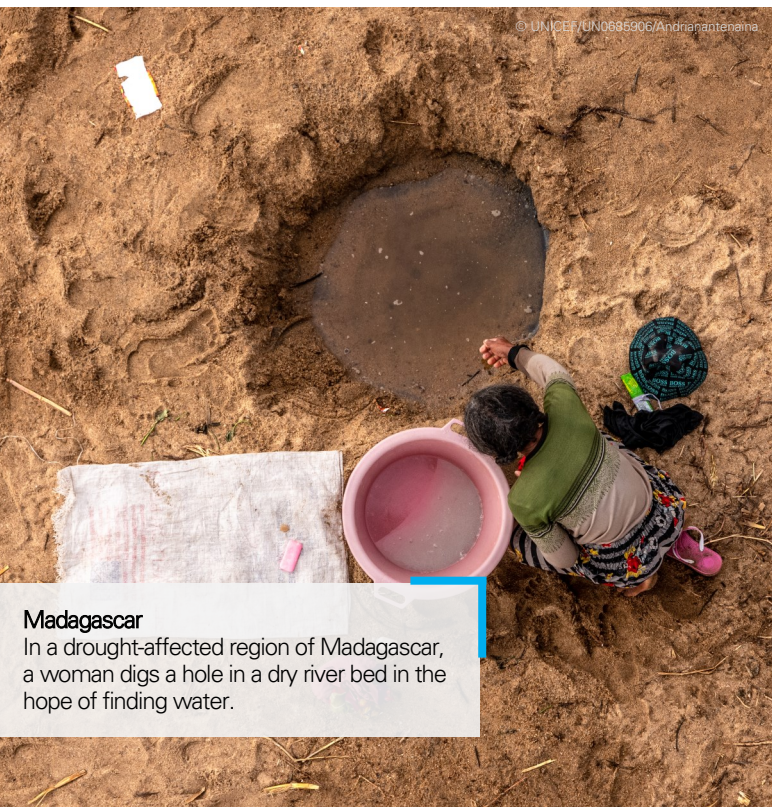
2.2 billion
people worldwide still
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drinking water

Water – the front line of climate change

Our world is built on water. It is essential not only for life, but for everything that makes society what it is. And we are facing a water crisis, made worse by climate change, urbanization and increasing competition for water. Today, 1.42 billion people – including 450 million children – live in areas of high, or extremely high, water vulnerability.

For businesses, people and the planet, water scarcity is now one of the greatest global challenges to economic and sustainable development, hindering the secure provision of food and energy. Scarcity is intimately linked to climate change, which has affected access to water gradually over time. But climate change can also have sudden and severe effects on water scarcity, to the point of disaster.

If current practices continue, the gap between global water supply and demand is projected to reach 40 per cent by 2030. And by 2050, according to estimates, as many as one in four people may live in a country affected by chronic shortages of fresh water. Securing an adequate supply of clean water despite the damage inflicted by climate change is one of the world's most urgent challenges.



Madagascar

In a drought-affected region of Madagascar, a woman digs a hole in a dry river bed in the hope of finding water.

Key messages

- The effects of water scarcity on business, people and the planet are interlinked. Securing an adequate supply of clean water despite the damage inflicted by climate change is one of the world's most urgent challenges.
- Economic activity can only grow if people have access to water that is safe and affordable. Yet 2.2 billion people worldwide still lack access to safe drinking water.
- Although water issues often require local approaches and solutions, global disruption created by water insecurity in highly water vulnerable geographies is very real in interconnected supply chains.
- Water is both a common good and economic good, and it needs to be valued, managed and regulated accordingly.
- Water can be a universal focus for climate change and achieving the Sustainable Development Goals. Water's role as an enabler and impact multiplier to transition to a green economy is critical.
- Taking action against water and climate risks within and beyond the factory gates can bring significant commercial and competitive advantages to the business sector, as well as to communities.
- Water scarcity is a complex systemic problem, and requires a three-pronged climate response: facilitate safe and affordable drinking water services; build resilience of communities; and prevent water scarcity through early action.
- Individual corporate initiatives are not enough. We need concerted, collective action to create a more water secure world, and achieve Water Security for All by 2030.

The World Bank estimates that the water crisis could slow GDP by
6 per cent
in some countries by 2050

For people and communities, the impact of water scarcity is stark. Around 2.2 billion people worldwide still lack access to safely managed drinking water. Economic activity can only grow – and human health, education and equality thrive – if people have access to water that is safe and affordable, from sources that are resilient to threats from water scarcity, extreme weather events and climate shocks.

Resilient water sources are also essential for businesses, and a lack of resilience can have multiple effects. For instance, scarcity in one part of the world affects operations elsewhere. Scarcity can raise the costs of raw materials, disrupt supply chains, put the health and safety of employees and their families at risk, and more. Indeed, the World Bank estimates that the water crisis could slow GDP by 6 per cent in some countries by 2050. But at the same time, because of water’s intrinsic link to energy and carbon, it is a useful lever in net zero strategies. Companies can decarbonize and meet their carbon reduction goals through responsible water management, and also through support for climate adaptation in their own operations and beyond.

Water cuts across the Sustainable Development Goals (SDGs), serving as a unifier and positive reinforcer. Actions to address water issues have cascading effects across all the SDGs. The SDGs also show how we must take a wider approach to managing water sustainably, going beyond simply providing safe water supply services. It is now recognized that providing such services requires addressing elements such as water quality, wastewater management, water scarcity, service efficiency, water resources management, and the protection and restoration of water-related ecosystems.

Whether we will all have to address water scarcity is no longer a question: it is a given. Water can be a universal focus for climate change; water’s role as an enabler and impact multiplier to transition to a green economy is ever more critical.

This document sets out the **business case** for addressing water scarcity and making water services more climate resilient across business operations, supply chains, and wider communities, and outlines areas for business action.

Return on investment for action

Water-related risks can have significant macro and financial implications, and addressing those risks generates a significant return on investment.

- Every \$1 spent addressing water risks to business could save more than \$5 in future costs if action is not taken, according to a 2021 report by CDP, a non-profit that runs the world’s environmental disclosure platform.
- The World Bank has calculated that investing in resilient infrastructure in low- and middle-income countries could save \$4.2 trillion over the lifetime of this infrastructure, with \$4 of benefit for every \$1 invested in resilience.
- Climate-resilient solutions reduce the cost of services – particularly those that depend upon water resources and energy – and offer enormous opportunities for sustainable livelihoods.



Cameroon

Water is an impact multiplier, touching all areas of the Sustainable Development Goals. For instance, by ensuring good water access in schools we can support children’s education and the economies of the future.

97 per cent of water on earth is salt water and most of the fresh water is frozen in glaciers

Why is there water scarcity?

We often think of water as abundant because it covers most of the planet. But in reality, water is a finite resource. 97 per cent of the water on earth is salt water and most of the fresh water is frozen in glaciers. We rely on less than 1 per cent of the world's water for all our freshwater needs, and there are multiple uses and multiple demands on it. Every year, we withdraw 4.3 trillion cubic metres of fresh water from the planet's water basins and use it in agriculture (70 per cent), industry (19 per cent), and households (11 per cent). Global economic systems have also long treated water as if it is infinite and of little value, leading to massive waste and misuse of the resource, imperiling ecosystems, human health, and long-term economic sustainability. But, today, the value of water is clear. We all recognize fresh water as one of the top world's most precious natural resources, essential to whole industries and all communities and ecosystems. It is both a common good and an economic good, and it needs to be valued, managed and regulated accordingly.

The water crisis we find ourselves in today is a result of many factors, including rising demand and climate change.

Demand for water is rising everywhere because of demographic growth and economic development. Companies are the biggest users; notably agriculture, industry and energy production. But rapid population growth and urbanization are also crucial factors, putting huge strains on municipal water utilities and private providers to secure and protect water resources and to deliver enough safe water to the public. At the same time, informal settlements are expanding, and continue to have limited access to basic water services. When you add this increased demand to the legacy of decades of misuse, poor management, and over-extraction of groundwater and contamination of freshwater supplies, the result is severe water stress.

Climate change is compounding water scarcity through changing precipitation patterns and increased demand for water. Droughts, floods and rising sea levels can damage vital water and sanitation infrastructure and services in homes, communities, schools, and health-care facilities, and affect food supplies. Rising sea levels can lead to saltwater intrusion, which contaminates drinking water supplies.

Another crucial element that affects both business and people is **economic water scarcity**. This arises where despite the availability of water in nature, access to that water is limited due to lack of infrastructure, poor governance, high costs, or mismanagement. In some parts of the world, it may mean there is insufficient investment in infrastructure to supply and distribute water equitably. For example, for poor households such as those in the Horn of Africa, domestic water supply is difficult to secure. They rely on water delivered by vendors on trucks or donkey carts at prices far more expensive than piped drinking water in developed countries. This leaves them vulnerable to high retail water prices and seasonal fluctuations in availability. In areas worst hit by drought, the cost of water has increased by up to 400 per cent. This means many families are forced to choose between water and other household essentials like food. Others can no longer pay for water at all, which contributes to displacement and conflicts over increasingly scarce water resources.



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Indonesia

Across Indonesia, rising temperatures, changing rainfall patterns, and more frequent pest outbreaks driven by climate change are resulting in challenges with food and water security.

\$329 billion

worth of economic losses were caused by climate and weather-related disasters in 2021.

Economic and social costs of water scarcity

Water is vital to everything. For this reason, the effects of water scarcity on business, people and the planet are all closely interconnected.

From floods and droughts to fire and famine, the **effects of climate change** are being felt across the globe. In 2021, economic losses from climate and weather-related disasters totaled an estimated \$329 billion, the third costliest in history. Droughts, floods and rising sea levels and extreme weather events can also damage vital water and sanitation infrastructure and services in homes, communities, schools, health-care facilities and food supplies. Rising sea levels can lead to saltwater intrusion, contaminating drinking water supplies. Rapid melting of glaciers changes the river flow patterns in downstream areas, contributing to risks of flooding, damage to infrastructure, as well as low flows in rivers, reducing the amount of water available.

Water scarcity and climate change are also drivers of **conflict and migration**, as communities and entire populations compete for shrinking water resources. Families may be forced to leave their homes in search of reliable water supplies and livelihood opportunities, often moving to urban areas and towns, putting even more pressure on already strained services.

Increasing water scarcity can **reduce the amount of water which families can collect**, and the quality of it, forcing women and children to walk longer, and potentially riskier, distances to collect water as sources dry up. All of this has a direct impact on children's health, development and safety, and threatens the significant progress made in child survival and sustainable development over the past several decades. It is putting children's lives at risk today and threatens future generations.

Although water is a local issue that often requires local approaches and solutions, the disruption **created by water insecurity** in today's interconnected and vulnerable supply chains is very real, and should not be underestimated or ignored. For instance, efforts to increase use of electric vehicles are vulnerable to water constraints in the supply chain, including for mining the metals needed to manufacture batteries. Mining can be constrained by lack of access to water, and metal exports are buffeted by geopolitics and COVID-19 travel restrictions, which limit labour availability in mining regions. Drought or disease in Chile, for example, can disrupt the production of batteries destined for a car manufacturer in the Philippines.



Pakistan
Sugra, age 15, goes out to collect water after her home was destroyed by severe floods.

Nearly two-thirds of all freshwater resources go into the production of ingredients for corporate supply chains

Companies depend on water in their direct operations or through their supply chains or products' life cycles. Water stress stemming from overuse of water resources, pollution, droughts or floods may **affect business profitability**. For instance, it can lead to operational disruptions, reduced product life, loss of market access or capital expenditure risks. It may also change the competitive landscape or market demand.

Given the importance of water for business, another crucial factor is **competition**. Companies are the world's largest water users, with nearly two-thirds of all freshwater resources going into the production of ingredients for corporate supply chains, from food to chemicals. Unpredictable weather patterns – and economic growth – also increase competition for access to water and this affects citizens, farmers, industries and governments alike. And in times of scarcity, governments will always prioritize human consumption and food bowls first. Organizations are discovering this to their cost, as lawsuits and injunctions attest. The competition for scarce water resources is not a battle the corporate world can resolve by working alone.

Costs that water-related risks can pose for economies and societies

- Global economic losses related to water insecurity are significant: \$260 billion per year from inadequate water supply and sanitation and \$120 billion per year from urban property flood damages.
- Over the past 20 years, the number of deaths caused by floods and droughts alone has exceeded 166,000 and caused economic losses of almost \$700 billion.
- The value of assets exposed to flood risk will grow to \$78 trillion by 2040, which is equivalent to about 57 per cent of the world's current GDP.



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South Sudan
Severe flooding washed away
harvests and left entire communities
underwater in South Sudan.

Why should business help solve the water crisis:

Seven reasons for action

Business is gradually recognizing the need to play an active role in resolving the water crisis. In order to stay in business, maintain good relations with local communities and governments, and protect their license to operate, companies need to join forces to find, preserve and make available water resources for all, and protect water basins that are at risk.

Working on water generates clear dividends for business. By helping to promote water security, business can simultaneously reap the benefits of cost savings, business growth and opportunities for collaboration. If business is investing in water supply, it makes good business sense for these services to be extended to communities. By spreading the costs of investments in water supply over a wider user base, business can leverage opportunities to reach potential consumers while also improving access for those communities most vulnerable to water scarcity.

Leaders in this space have understood the entire water footprint of their value chains and supply chains, and are thinking about where they can reduce their risk. This approach takes them beyond the factory fence and out into communities and the world around them, often engaging in collective action projects with other like-minded governments, businesses and organizations.

Here are **seven positive reasons** for action on water security:

- 1. A useful lever in net zero strategies:** Today's water systems are important sources of global greenhouse gas emissions. With water demand growing, this activity is likely to increase rather than reduce carbon emissions unless decarbonization strategies are introduced in the sector. Companies with the best governance, systems and technologies to deal with water challenges could be better positioned to achieve net zero strategies.
- 2. Reducing operational costs:** Water stress stemming from overuse of water resources, pollution, droughts or floods may affect business profitability. It can lead to operational disruptions, reduced product life, loss of market access or capital expenditure risks. More water efficient operations can increase the volume of water available, lessen operations and maintenance costs, and counteract impending economic losses.
- 3. Seizing new market opportunities:** Like any disruptive force, water insecurity creates opportunities to innovate. As demand for water-efficient products and technologies increases, providing solutions to water challenges could prove a strategic advantage as there are enormous business opportunities for the private sector to create, and meet, demand for sustainable products in their current and new markets.
- 4. Supply chains and supply security:** Investment in water security across a business supply chain provides opportunities to increase workforce productivity and grows supply security of the product. It is estimated that for every \$1 invested in water and sanitation, \$4.30 is generated in economic returns through increased productivity and reduced health costs. Cost savings across the supply chain are of benefit to both producers and consumers and will, in turn, increase economic efficiency and ultimately provide more enhanced supply side infrastructure.
- 5. Social license to operate:** By engaging in "water stewardship" and investing in water security "beyond the factory fence," companies can secure a legitimate claim to water by becoming wise custodians of water consumption and, also critically, by becoming part of the larger solution to the global water crisis. Such investments can strengthen relationships with governments and other key influencers, increase goodwill, and reduce reputational risk.
- 6. Preserving markets:** Increased access to water in communities improves livelihood opportunities and has a direct impact on household incomes, with reduced commodity prices also contributing to disposable incomes, and buying capacity. Achieving water security for all generates employment and income opportunities, and contributes to more stable and peaceful societies.
- 7. Demonstrating shareholder value:** Finally, it is clear that the world is waking up to the importance of water, and this includes shareholders. Shareholder resolutions on water – mostly focused on the food, beverage, oil, and chemical industries – more than quadrupled over the past ten years. Indeed, the financial markets are increasingly seeking to invest in companies that are managing short- and long-term water-related risks and are striving to meet stakeholder expectations on responsible water management.

2030

is the year by which we aim to achieve universal and equitable access to safe and affordable drinking water for all as part of the Sustainable Development Goals

How to create a water secure world

With urgent action, the world's water crisis can be averted. Water security can be a benefit for business and society alike. Business has a vested interest in ensuring water resources are managed responsibly, fairly, and sustainably. By 2030, all children and the communities they live in could have access to a safe, reliable, affordable and sustainable water supply, resilient to threats like water scarcity, extreme weather events and climate shocks. To accomplish this, we urgently need to reimagine our approach to water: from supply to usage, infrastructure, governance and management. In order to achieve sustainable Water Security for All, UNICEF is calling for investments, actions and cooperation to support a four-dimensional response:



Safe and affordable drinking water services:

Provide access to safe and affordable drinking water services that are sustainable, close to home and managed professionally. Water security must be prioritized in climate adaptation plans and national commitments, with adequate funding allocations.



Climate-resilient Water, Sanitation and Hygiene (WASH) services and communities: Ensure that all WASH services withstand climate-related events, strengthen the resilience and adaptive capacities

of vulnerable communities, and operate using low-carbon energy sources, such as solar power. Strong national policy and regulatory environments must proactively address water scarcity, including over extraction of groundwater, as well as the establishment and analysis of groundwater monitoring networks.



Prevent water scarcity crises through early action:

Avert water scarcity crises through water resources assessments, sustainable water withdrawal, efficient and conjunctive use, and; early warning and early action to prevent situations where water supplies are fully depleted. Long term support is needed for monitoring of water resources and implementation of catchment-based climate resilient water safety planning (from 'source to sink'), where water quantity issues are considered, and water quality threats are mapped from catchment to household level.



Water Cooperation for peace and stability:

Work with communities and key stakeholders so that equitable management of water resources and WASH services contribute to increased social cohesion, political stability and peace; and in conflict zones to prevent attacks on water and sanitation infrastructure and personnel.



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Yemen

With the rapid advancement and fall in prices of new technologies, such as solar power, there are now opportunities for businesses to secure water security more easily and at greater scale.

A Call to Action: Accelerating progress on water security for all

Many companies are making individual efforts to save water, save money and help build good community relations with other users. But individual initiatives are not sufficient to address the water crisis and mobilize an effective systemic response. Only through concerted, collective action will we create a more water secure world and achieve Water Security for All by 2030.

There are five overarching ways in which companies can help lead the development of shared solutions within their operations, in communities, with decision makers and through partnership.

Integrate commitments to sustainable water management into corporate policies, and, where relevant, have a clear water management strategy. Take a long-term approach and understand the potential business, social and environmental implications of evolving corporate water demand, including in supply chains and products' life cycles:

- Conduct comprehensive and periodic water-use assessments to understand the extent to which the company uses water in the direct production of goods and services, the associated social and environmental impacts on, and the needs of communities surrounding direct operations and supply chains;
- Set targets for operations related to water source protection and conservation, waste-water treatment and reuse;
- Encourage suppliers to improve their water conservation, quality monitoring, waste-water treatment, and recycling practices;
- Monitor water source performance, water withdrawals, consumption and quality, and identify and consider relevant adaptation and mitigation measures to avoid or reduce risks. This could include improved water efficiency in production processes, improved environmental quality of discharge, increased water recycling practices, or reduction of products' life cycle water dependency.

Support communities and seek to enable local vulnerable groups to retain necessary access to water supporting water stewardship efforts:

- Build closer ties with civil society organizations, especially at the regional and local levels, in order to advance water and sanitation agendas;
- Provide water access and education campaigns in supply chains and communities in partnership with local stakeholders;
- Engage in water stewardship and collective river basin conservation efforts;
- Collaborate with UN initiatives working at the systems level to address water scarcity and access for the most highly water vulnerable countries, such as UNICEF's Water Security for All (WS4A) initiative.

Innovate and share expertise to improve the efficiency, quality and treatment of water use and reuse; support early warning and early action systems to avert water scarcity crisis and help find new sources of water for more equitable and affordable solutions:

- Strengthen climate information services and early warning systems for flood/drought forecasting, as well as surface and groundwater monitoring;
- Develop and scale up climate-resilient innovations for groundwater exploration and WASH services;
- Use big data, such as digitalization and convergence of IoT with modelling (cost effective sensors, smart meters, water network, smart grid) and support forecasting trends through machine learning and AI (nonrevenue water; energy consumption) to avert water scarcity crises and guarantee early action;
- Identify and develop more sustainable service delivery models to improve supply chains, professionalize operations and bring them to scale;
- Scale up the use of renewable energy to power water service delivery, ensuring the expansion of services in remote areas, with necessary back up services and supplies;
- Enable provision of market data; support in data gathering and analysis; monitoring/tracking progress.

Advocate for political commitment and policy change, underscoring the urgency of addressing water insecurity to decision makers, and the human value of water as a finite resource that must be protected:

- Ensure that all public policy engagement and lobbying activities are aligned with sustainable water resource management outcomes;
- Support governments to integrate WASH priorities into climate policies, strategies and plans such as the National Adaptation Plans (NAP) and Nationally Determined Contributions (NDC), with a focus on the most vulnerable populations;
- Call for effective regulation and valuation of water, publicly outline companies' responsibilities on water sustainability and promote policies supporting efficient use;
- Contribute inputs and recommendations in the formulation of government regulation and in the creation of market mechanisms in ways that drive the water sustainability agenda;
- Direct climate financing to create enabling environments and ensure water conservation, efficiency and reuse, and build long-term resilience to climate hazards.

Accelerate financing and capacity to build local capacities that can help to better identify climate risks, develop and manage resilient WASH services and develop project pipelines to attract innovative financing, including climate finance sources:

- Provide grants to support water service provision or enabling environment activities;
- Provide loans to support the expansion of services by utilities;
- Support innovative blended finance instruments that help to de-risk investments, particularly in fragile contexts;
- Provide targeted skills from the private sector to support increased efficiency and performance services; mainstreaming e-solutions;
- Co-finance investment to ensure more energy/water-efficient and climate-resilient services, leveraging funding from multiple sources including climate funds/guarantees/equities.



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