



## **Investing in Children as we Build a Next and Better Normal: Water Security For All**

An investment opportunity for the private  
and public sectors





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***UNICEF, a global leader in water and sanitation, is actively contributing to achieving water security for all. This overview highlights how partnering with UNICEF can help you reach your philanthropic, business, and institutional goals.***

## The opportunity

The opportunity before us is to promote water security; in so doing, we are quite simply safeguarding life. This can only be achieved if people have access to water that is safe and affordable, from renewable sources, and resilient to threats related to water scarcity, extreme weather events and climate shocks. To respond to this opportunity, we ask you to join us in reimagining water, sanitation and hygiene (WASH) to ensure “Water Security for All” (WS4A).

Like any disruptive force, water insecurity creates opportunities to innovate. Climate-resilient and energy-efficient technologies are rapidly advancing, and becoming cheaper and more user-friendly, particularly renewable energies and use of remote sensing for groundwater exploration. More water-efficient operations can increase the volume of water available, reduce water scarcity and lessen operations and maintenance costs. The private sector has an opportunity to respond, whether through spearheading specific innovations itself or by financing and supporting the creativity that leads to sustainable solutions. This proactivity could counteract impending economic losses and create further social returns.

While greater up-front investments may be required to address water scarcity and climate change, they can help to reduce the cost of delivering services in the short to medium term. Addressing water insecurity can also reduce rural to urban migration, thereby preserving business opportunities and markets in rural areas. 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 will not only improve children’s health and well-being, but will also generate employment and income opportunities, and contribute to more stable and peaceful societies.

There are enormous business opportunities for the private sector to create, and meet, demand for sustainable products in their current and new markets, as well as to ensure that their businesses are both water- and energy-efficient and have been proofed against future

***Taking action against these risks can bring significant commercial and competitive advantages to the business sector, as well as to communities.***

climate risks. Taking action against these risks can bring significant commercial and competitive advantages to the business sector, as well as to communities. Investing in sustainable and green infrastructure is one of the most important and cost-effective ways to increase the resilience of communities.

**According to the World Bank:** The extra cost of building resilience into these systems is only 3 per cent of overall investment needs. The benefit of investing in resilient infrastructure in low- and middle-income countries is US\$4.2 trillion over the lifetime of this infrastructure, with \$4 of benefit for every \$1 invested in resilience.<sup>1</sup>

**Now is the time to invest.** The public and private sectors have a pivotal role in this response, whether by financing opportunities to ensure sustainable solutions, creating and expanding demand for sustainable products, or spearheading innovative designs and technologies.

<sup>1</sup> Hallegatte, S., Rentschler, J., Rozenberg, J. (2019) *Lifelines: The Resilient Infrastructure Opportunity. Sustainable Infrastructure*; at <<https://openknowledge.worldbank.org/handle/10986/31805>>.



## 1.3 billion people – including 450 million children – live in areas of extreme water vulnerability

### The challenge

Today, 1.3 billion people – including 450 million children – live in areas of extreme water vulnerability.<sup>2</sup> For children, water is life. When children do not have access to safe water, it puts their health, nutrition, education and futures at risk. Water scarcity limits both the amount and the quality of drinking water for children, and forces them to walk longer distances to fetch water – interrupting their education and even putting their lives at risk. Unsafe water can transmit diseases like cholera and cause diarrhoea: a leading killer of children. Climate change is compounding water scarcity, and thus increasing the threat to children.

Water scarcity and climate change are also drivers of conflict and migration, with communities being forced to compete for shrinking water resources. Families may be forced to leave their homes in search of reliable water supplies, further compounding the disparities between rural and urban areas. The resulting impact on children's health, development, and safety threatens the significant progress made in child survival and sustainable development over the past 30 years.

Water insecurity can only be addressed by joint action to tackle the following **challenges**.

#### Nigeria

At the Primary Health Center (PHC) in Kwaido Bauchi, a boy is fetching water from a solar-powered water borehole provided by EU-UNICEF to support WASH services in PHC.



<sup>2</sup> Calculated as living in areas most affected by water scarcity and relying on poor quality drinking water.

**3**  
billion people lack access to  
handwashing facilities, with  
soap and water, at home

**2**  
billion people lack access  
to safe drinking water  
sources at home

**144**  
million people still use  
untreated and unsafe  
surface water for drinking

### Drinking water services are not safe and affordable

Around the world, three billion people lack access to handwashing facilities, with soap and water, at home. More than two billion lack access to safe drinking water sources at home, and 144 million still use untreated and unsafe surface water for drinking.

The poor and marginalized, and particularly children, suffer the worst consequences of water scarcity, with their right of access to water compromised by demand from large-scale industry and agriculture. Large numbers of highly vulnerable households in water-scarce countries cannot afford water tariffs that need to increase to fund the infrastructure required for accessing water from increasingly distant sources.

The COVID-19 pandemic highlighted the risk faced by vulnerable households, and the impossibility of practicing basic hygiene behaviours in the absence of enough sustainable and affordable access to water.<sup>3</sup>

*Drinking water is not just needed in households.* Around the world, 1.8 billion patients lack basic water services in health care facilities. In the least developed countries, only 50 per cent of facilities have a basic water service. Meanwhile, 584 million children lack a basic water service at school, and 31 per cent of schools lacked a basic drinking water service before the COVID-19 pandemic.

### WASH services and communities are insufficiently resilient to climate change

Climate change negatively affects economies, livelihoods and the environment throughout the water cycle – in the form of droughts, floods, sea level rise, acceleration of ice melting, and changes in rainfall patterns. In many places these changes are already taking place, and the world is ill-prepared to respond.

Climate change cause losses and damage, which distress the supply and provision of safe water, sanitation and hygiene services. This has serious consequences, particularly for children living in vulnerable circumstances. For women

and girls especially, the reality of water scarcity, or other climate-related disruption to water supply, often translates into ever-increasing numbers of hours required to seek safe water for themselves and their families.

The need to adapt WASH services is not well recognized. Services vary by area and by group and, moreover, must enable resilience. For example, marginalized communities living in areas at high risk of floods require specific sanitation solutions. The same goes for ensuring safe drinking water in areas of drought, or in areas affected by salinization of coastal aquifers. Opportunities for innovation are therefore significant.

### Lack of forward planning to prevent water scarcity crises

Water scarcity is now one of the greatest global challenges to sustainable development, hindering the secure provision of food and energy. This is intimately linked to climate change, which can have a sudden and severe effect on water scarcity, to the point of disaster.

Water crises are ranked first, fourth and ninth among global risks of greatest concern in terms of societal risks,<sup>4</sup> impact<sup>5</sup> and likelihood.<sup>6</sup> Water scarcity is a major barrier to progress, both within the WASH sector and beyond. It poses an increasing and fundamental risk to realization of the human right to water and sanitation, and to the achievement of SDG 6. An estimated four billion people live in areas of severe water scarcity for at least one month of the year.<sup>7</sup> By as early as 2025 it is projected that half of the world's population will be living in water-stressed areas. As many as a quarter of the world's cities are already thought to be water-stressed.<sup>8</sup>

Recent analysis by UNICEF<sup>9</sup> has indicated that 1.3 billion people, including 450 million children, are living in areas of 'high' or 'extremely high' water vulnerability. This has major implications for the life, health, development and future opportunities of children and their families.

<sup>4</sup> World Economic Forum, 2019.

<sup>5</sup> World Economic Forum, 2015

<sup>6</sup> UN-Water, 2020.

<sup>7</sup> Mekonnen and Hoekstra, 2016.

<sup>8</sup> According to a survey of 500 cities (McDonald et al., 2014).

<sup>9</sup> UNICEF analysis based on World Resources Institute (WRI) water scarcity index and WHO/UNICEF joint Monitoring Programme (JMP) levels of service.

<sup>3</sup> UNICEF, 2020.

Water scarcity undermines the sustainability of WASH services and is becoming increasingly prevalent, manifesting itself as both intermittent water supply during dry seasons and as permanent water scarcity. This is often due to the over-exploitation of aquifers, or the increased demands of growing populations and demand from other sectors. Household water supply is threatened when water scarcity leads to competing water demands, for instance between drinking water and other users (i.e. irrigation, industry, hydropower), or between communities (i.e. rural vs. urban, regions or countries), regions and countries.

### Water insecurity creates a vicious circle with other drivers of conflict

Conflict is a major driver of crisis. Indeed, more countries have experienced violent conflict than at any time since 1989.<sup>10</sup> Ongoing conflicts are shifting patterns of water use, further straining limited water resources. Sudden influxes of large numbers of refugees in water-scarce locations – like those experienced in Egypt, Jordan and Lebanon – have led to utility companies being unable to provide an adequate supply of drinking water for host populations and displaced people.

People living in fragile and conflict-affected countries are eight times less likely to use a basic water source.

When water becomes scarce, tension and conflict between users can rise, competition between sectors can increase, and rising prices and lower standards of services can result in inadequate water supply. Therefore, lack of water becomes one of the factors fuelling the cycle of fragility.

In conflict, deliberate and indiscriminate attacks destroy infrastructure, injure personnel and cut off the power that keeps WASH systems running. Armed conflict also limits access to essential equipment and consumables such as fuel or chlorine – which can be depleted, rationed, diverted or blocked from delivery. Far too often, essential services are intentionally denied.

Particularly in cities – where communities depend on a complex, interconnected set of services – attacks on water, sanitation and power systems can be instantly debilitating, with long-term consequences.

<sup>10</sup> Uppsala Conflict Data Programme, Department of Peace and Conflict, 'Number of Conflicts', accessed 11 February 2019; United Nations Children's Fund, Humanitarian Action for Children 2019 Overview, UNICEF, New York, January 2019, p. 2.



#### Jordan

Children in Al Khader mixed primary school take part in a handwashing demonstration.



**\$1**  
billion annual WASH expenditure  
across 114 countries

**85**  
countries were lead by UNICEF  
sector coordination

## UNICEF's sustainable response

UNICEF has decades of experience of supporting governments to ensure every child has at least basic levels of service for drinking water and sanitation across a range of contexts – in particular in fragile contexts – and is the global thought leader on climate-resilient WASH services. While water insecurity and climate change pose enormous risks to the health, development and futures of children, there are also many opportunities for a sustainable response. UNICEF has the largest footprint, working in 114 countries with a total annual WASH expenditure of US\$1 billion and more than 725 WASH staff globally. UNICEF leads sector coordination in 85 countries and has a privileged relationship with governments at national, sub-national and community levels.

UNICEF is currently contributing to reaching 450 million children and their families in priority “highly water vulnerable” areas by the year 2025, and is seeking to ensure that by 2030, all children have access to a safe and sustainable water supply and live in water-secure communities and cities.

UNICEF focuses on four main areas of response to water insecurity, which require strong partnership with the private and public sectors.

*UNICEF has decades of experience of supporting governments to ensure every child has at least basic levels of service for drinking water and sanitation across a range of contexts.*

In 2020, UNICEF, working with partners:

- Invested approximately US\$1 billion providing WASH services
- Provided water to over 17 million people in over 80 countries, including over 39 million people in emergency contexts
- Designed and installed 1,448 solar powered water systems in 41 countries
- Provided 6.2 million people with a climate-resilient water service
- Provided 6.6 million people with a climate-resilient sanitation service
- Implemented the Strategic Framework for WASH Climate Resilient Development in 79 countries
- Developed a regional programme of WASH interventions for investment by international financial institutions

### Djibouti

A young girl exits a sanitary latrine outside a UNICEF-supported school in the village of Dafo, situated 5 km from the city of Tadjourah.



## ① Facilitating safe and affordable drinking water services

UNICEF is working to provide universal and affordable access to safe water services that are sustainable, resilient, close to home and managed professionally.

UNICEF works at policy level with governments to ensure that they prioritize water security in climate adaptation plans and national commitments, and that they increase funding allocations. UNICEF supports governments to conduct strategic research and technical studies to improve the sustainable management of water resources. This includes development of WASH risk assessments, costing studies on the impact of not investing to reduce the risks of water scarcity and climate change, and advocacy for the allocation and efficient spending of adequate budgetary sums. UNICEF provides support for the identification of possible opportunities for climate funding and financing.

Working in partnership, UNICEF and the private and public sectors can help secure safe and affordable drinking water services by:

### Research and policy support

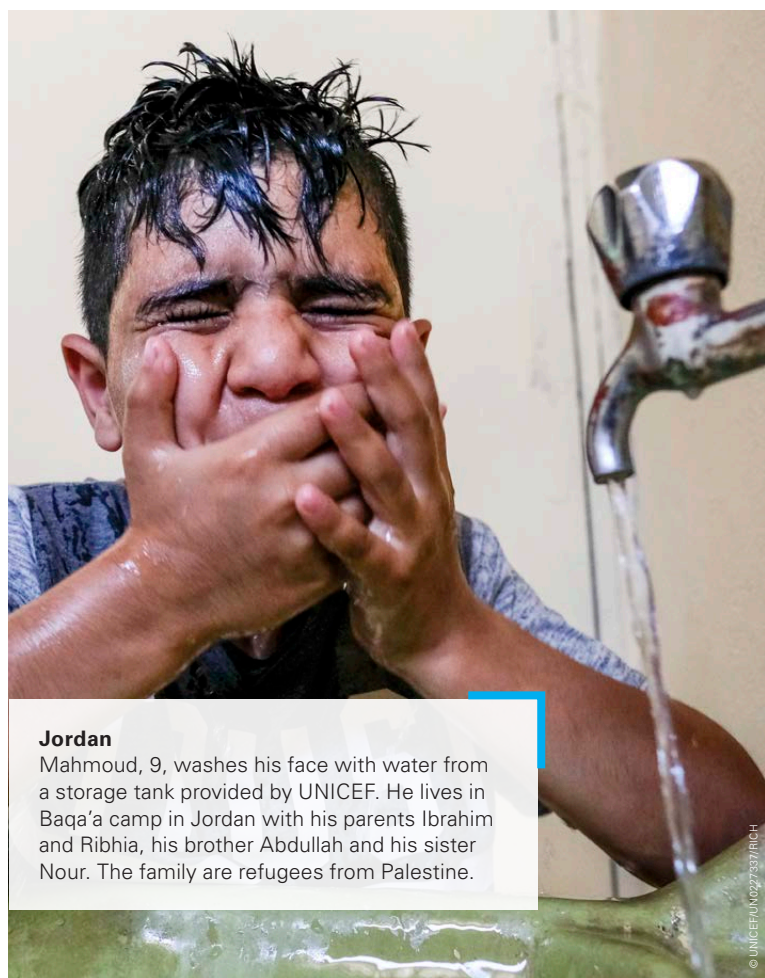
- Supporting countries to understand the main elements for the enabling environment and systems strengthening.
- Ensuring that water services are affordable and inclusive.

### Financing

- Engaging in water financing partnerships. Those partnerships could include:
  - Grants to support service provision or enabling environment activities;
  - Loans to support the expansion of services by utilities; or
  - Innovative blended finance instruments that can contribute to de-risking some projects and making some investments in fragile contexts more attractive for financing.

### Technical support

- Identifying sustainable service delivery models and bringing them to scale.
- Supporting countries to monitor sustainability in the whole WASH sector (sector-wide sustainability checks).
- Developing a more professional service delivery model to improve supply chains, professionalize the operation and management of the services, and improve technical support and capacities, while ensuring the financial sustainability of utilities and their affordability for their users.
- Participating in a “Special Leadership Group” of businesses to mentor managers in charge of service delivery. One successful example of this is the creation of Water Operator Partnerships (WOP) which consists of exchanges of experiences between two water utility operators.



#### Jordan

Mahmoud, 9, washes his face with water from a storage tank provided by UNICEF. He lives in Baqa'a camp in Jordan with his parents Ibrahim and Ribhia, his brother Abdullah and his sister Nour. The family are refugees from Palestine.



## ② Building the climate resilience of WASH services and communities

UNICEF supports strategic actions at various levels to ensure that all WASH services can withstand climate-related events, to strengthen the resilience of vulnerable communities to resist climate shocks, and to ensure that services are operated using low carbon energy sources, such as solar power. In support of national systems, UNICEF pushes for a strong national policy and regulatory environment that proactively addresses water scarcity, including over-extraction of groundwater, as well as the establishment and analysis of groundwater monitoring networks. This includes the development of planning documents at national and subnational levels. In recent years, in collaboration with the private sector and with support from governments and bilateral donors, UNICEF has designed and implemented innovative methods of water supply enhancement in complex, water-scarce situations. UNICEF works with schools to install photovoltaic panels to power water pumps and the school energy demand. Where possible, the excess solar power is sold to the grid, providing much-needed income for the school to support operations and maintenance.

UNICEF also works to activate young people as agents of change for sustainable use and management of water and protection of the environment. This in turn helps to ensure that the professional WASH workforce is expanded with skilled, energized young people. Working in partnership, UNICEF and the private and public sectors can help to build the climate resilience of WASH services and communities by:

### Research and policy support

- Helping to identify the risks posed by climate change and water scarcity to WASH services, and identifying innovative solutions to these.
- Undertaking water resource assessments and identifying strategic areas for sustainable tapping water resources.

### Innovation

- Scaling up the use of renewable energy to power WASH services, including solar, ensuring the expansion of services in remote areas, with the necessary back-up services and supplies.

- Sharing innovations that help to make management of water resources more careful and efficient, while rehabilitating sections of the network, to reduce leakage and conserve water. This includes water-saving designs for tanks and toilets, as well as the reuse of wastewater.

### Financing

- Co-financing investment to ensure more energy/water-efficient and climate-resilient services, leveraging funding from multiple sources including climate funds/guarantees/equities.
- Financing to drive improvements in water use efficiency, quality and treatment.

### Technical support

- Supporting the provision of professional design and supervision services associated with solar powered systems, including for water supplies, as well as health care facilities and schools.
- Supporting the creation of demand for climate-resilient WASH services.
- Supporting the development of business cases to highlight investment potential and the costs of not investing.
- Supporting skills development and technical training of youths and adolescents.
- Supporting the integration of Environmental and Social Safeguards (ESS) into WASH programming (capacity building, templates and monitoring).
- Expanding the existing Regional Solar Hub in West Africa, which provides technical support to governments and partners for the expansion of solar systems, to other regions.

### ③ Preventing water scarcity crisis through early action

UNICEF is working to avert water scarcity crises by supporting water resource assessments, sustainable groundwater abstraction, efficient use, and early warning and early action to prevent situations in which water supplies are fully depleted. UNICEF provides long-term support 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. Given the anticipated increase in wastewater reuse, this support is being extended to sanitation safety planning.

UNICEF supports processes that manage water resources through data analysis on water supply and demand. Water accounting can support a comprehensive overview of available water resources, and ongoing monitoring and decision support systems, supporting coordination and cooperation between WASH and water resource management institutions to prevent scarcity. Working in partnership, UNICEF and the private and public sectors can promote behavioural change to conserve water by:

#### Research and policy support

- Conducting assessments to map the most vulnerable populations and the impacts of climate change, using the data to identify the most appropriate technologies that can be scaled up over time.
- In countries where water levels are falling rapidly, carrying out water resource investigations using satellite imagery, water modelling and groundwater monitoring.

#### Innovation

- Developing early warning/early action systems to avert water crises and find new sources of water
- Identifying and implementing possible technical options for water demand management/addressing water insecurity/increasing water quality and water efficiency.

- Strengthening systems to provide real-time data on extreme climate events, water availability, the volume of extractions, water quality, aquifer recharge levels, saline intrusion, epidemic outbreaks, and water and sanitation coverage.

#### Technical support

- Installing and rehabilitating boreholes as multiple-use schemes/other technologies to increase community resilience.



#### Nigeria

Zara collects water for use at their home in Bakassi IDP camp, in Maiduguri, the capital of Borno State. Four solar powered boreholes with 10,00 litre overhead storage for each borehole and 60 water taps are servicing 21,000 Internally Displaced Persons from Gwoza, Marte, Monguno LGAs.



#### ④ Facilitating water cooperation for peace and stability

UNICEF works with communities and key stakeholders with the goal that equitable management of water resources and WASH services contribute to increased social cohesion, political stability and peace dividends. It also works in conflict zones, to prevent attacks on water and sanitation infrastructure and personnel, and to ensure that refugees, internally displaced persons and other groups affected by the crisis can access the water they need.

In protracted crises in areas affected by water scarcity and climate change, UNICEF follows the principle of 'building back better' (e.g., promoting sustainable supply and efficient water use, as well as wastewater reuse). As the situation permits, support in camp situations progressively moves from water trucking into durable piped water systems that provide water to both refugees and host communities, contributing to reducing the costs of humanitarian operations and benefiting the host communities with higher levels of service and reduced costs as a consequence of gaining from economies of scale.

UNICEF also targets conflict 'hotspots' to improve access to small-scale water supplies for domestic and agricultural use that can help to defuse localized tension and conflict.

Working in partnership, UNICEF and the private and public sectors can mitigate the problem of water scarcity in emergencies by:

##### Financing

- Developing new investment modalities and greater "risk appetite" in water supply solutions in fragile settings.

##### Technical support

- Supporting governments to build and rehabilitate water points and latrines in camps, urban areas receiving displaced people, and other emergency-affected contexts.



##### Djibouti

A girl child drinks safe water from a tap outside a UNICEF supported school in the village of Dafo, situated 5 km from the city of Tadjourah, in the southern Djibouti.

## How the private and public sectors can invest

To sustainably address water insecurity, philanthropists, corporations, foundations, bilateral and multilateral organizations and governments can invest in a water-secure future for children and young people in several ways:

### Invest in flexible funds for water and sanitation

These funds enable UNICEF to direct your investments where they are needed most to increase water security in the countries most affected. This funding gives experts the flexibility to target interventions that will have the best results around the four dimensions explained above, and therefore enable a strong return on investment. This is particularly important during this time of COVID-19 and as we build a next and better tomorrow, as it provides the flexibility to adapt in a volatile and changing environment.

### Invest in specific results

UNICEF recognizes that some partners need to designate their resources to a particular result area and country or would like to complement financial investment with advocacy and technical expertise. UNICEF has a long history of developing strategic partnerships. We would be happy to work with you to meet your strategic priorities or philanthropic and corporate goals. The ideas in the “UNICEF Sustainable Response” section above – for example on research, innovation, solar technical hubs, developing designs for water saving, renewable energies for the WASH sector, education, and more – are all strong opportunities for further collaboration.

*These funds enable UNICEF to direct your investments where they are needed most to increase water security in the countries most affected.*



### Madagascar

Finally it rained. The drought have been rough for the last 3 years. A woman is collecting rain water on the national road RN13.





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