

# The Impact of COVID-19 on the Water and Sanitation Sector

Frequent and proper handwashing is the most basic frontline defense against the spread of COVID-19. Yet a quarter of the world's population lacks access to a reliable water supply—a far cry from the aspirations of Sustainable Development Goal 6—*Ensure availability and sustainable management of water and sanitation for all by 2030*. The pandemic has heightened awareness of both the extent and consequences of this access gap, and it could slow down progress in meeting the SDG 6 development goal as revenue losses by water utilities affect their ability to make critical capital investments.

## SECTOR BACKGROUND

The water and sanitation sector comprises (a) water supply—the abstraction, treatment, and distribution process for treating raw water and delivering the product (drinking water) to the customer, and (b) sanitation—the collection and treatment of wastewater so it can be safely discharged to the environment or reused.

**Structure.** Public utilities, both local government and state-owned, typically operate water supply systems, collectively accounting for the bulk of the global market, according to the World Bank. In a few countries (such as Chile and Vietnam), private companies own and operate water systems. In several countries, the private sector operates time-limited concessions and other public-private partnerships to deliver water services.

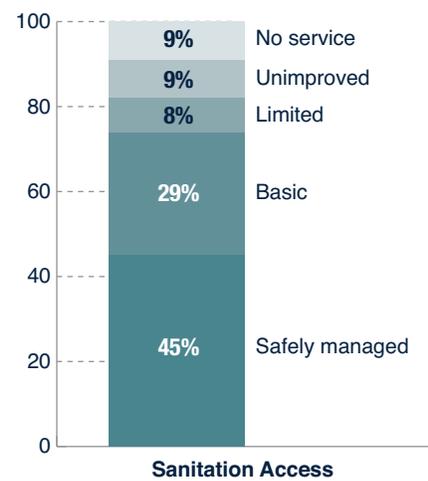
**Access and quality of service.** According to the United Nations, nearly one-third of people globally lack access to safely managed drinking water services. Over half lack access to safely managed sanitation facilities (Figure 1). In the least-developed countries, about 22 percent of healthcare facilities lack access to improved water and improved sanitation services. These access deficits

have potentially significant adverse impacts on people’s health, through water-related diseases, in addition to productivity and environmental impacts. [The World Health Organization \(WHO\) estimates](#) that unclean water and poor sanitation caused 829,000 deaths from diarrheal disease in 2016—equivalent to 1.9 percent of the global burden of disease.

**FIGURE 1(A):  
GLOBAL ACCESS TO IMPROVED WATER**



**FIGURE 1(B):  
GLOBAL ACCESS TO IMPROVED SANITATION**



Source: United Nations. The Sustainable Development Goals Report, 2019.

**Sector drivers.** Prior to COVID-19, the global water sector was impacted by five major trends: (a) global warming, which has led to an increase in extreme floods and droughts, challenging the resilience of water and sanitation systems, (b) increasing number of people living in areas facing water stress (currently 2 billion), which increases supply vulnerabilities, (c) rapid urbanization, which strains existing water resources and ecosystems, (d) the emergence of megacities, which adds the challenge of extending water and sanitation services to about 1 billion people living in informal settlements not served by water grids, (e) aging infrastructure, which has increased pressure to accelerate investments in more advanced markets, following decades of underinvestment.

**Investment needs.** Closing the water sector infrastructure gap will require an [additional \\$114 billion investment in developing countries](#) each year up to 2030, in addition to the cost of maintaining and upgrading existing networks in developed markets. The [World Bank](#) estimates that investments to extend access to water and sanitation services amounted to less than [a third of the total required to meet SDG-6](#) as of 2015. Investments in access expansion had started to grow pre-COVID-19.

**Cost structure.** Water is a labor-intensive industry with high energy utilization and consistent demand for chemical supplies and other consumables. These account for the bulk of Operating expenses (Opex) for water utilities. Capital expenses (Capex) comprise mostly networks and treatment facilities.

**Funding sources.** Water utilities' operations are typically funded by customer receipts (comprising water tariffs and one-off connection charges), grants, and taxes. Tariffs are often set to achieve socio-political objectives at levels that are insufficient to recover operating costs. Therefore, the water utilities require support from other sources, usually the government budget. Additional revenue pressures come from inefficient operations such as high non-revenue water (leakages, water theft, uncollected revenues), which exceeds 40 percent in [several emerging market](#) economies. Capital expenditures are mostly funded through [borrowing and public financing](#), with private capital covering a small share of capital expenditure.

## IMPACT OF COVID-19 ON THE WATER SECTOR

With a few exceptions, the outbreak of COVID-19 is projected to slow down investments in the water sector worldwide. It has also increased the importance of operational reliability due to the cost of disruption. These operational needs derive from shifts in demand patterns, supply disruptions, and the various emergency measures employed by governments to cope with the pandemic.

**The world's poorest received the COVID-19 shock on top of existing major urban water and sanitation services deficits, all pointing towards a potentially overwhelming burden to contain the virus.** Low access, reliability, and the quality of water, sanitation, and hygiene (WASH) present risks in developing countries. Large cities also face risks stemming from population density and informal settlements. A recent World Bank tool for identifying pandemic "hotspots" pointed to the cramped living conditions of cities and inadequate public services, especially inadequate waste management and sanitation, [as significant sources of risk](#) for contagions in large developing market cities, such as Cairo and Mumbai.

**Many large users of water have downscaled or reduced activities resulting in declining industrial demand.** A decline in demand from large industrial and commercial users due to lockdowns and travel restrictions will significantly reduce revenues to water utilities. A survey by Global Water Leaders Group estimates that industrial water [demand will fall by an average of 27 percent due to COVID-19](#). Deeper revenue loss is projected across the whole water supply chain, including operators, technology companies, contractors, chemical suppliers, and consultants.

**Several countries have announced crisis emergency measures that will affect revenues.** Globally, the partial suspension of water billing for low-income users and moratoriums on water service cut-offs have been the most common responses to the crisis. Specific measures adopted include (a) deferrals on or exemptions from utility bill payments for vulnerable groups, (b) moratoriums on cutting off the water supply (justified by the importance of hygiene in reducing the spread of the virus), and (c) suspensions of meter reading and invoicing.

For example, [a water utility in Chile agreed with the government on deferring water and sanitation bills](#) for almost half of its poorest clients who consume up to 10 cubic meters per month for the duration of the "Declaration of Catastrophe." Amounts accumulated during this time will be repaid in equal installments without penalties or interest during the subsequent 12

months. [In Brazil, a water utility announced three months of tariff exemptions for low-income households, a 3-month postponement of tariff adjustments, and the donation of water tanks to one of the biggest informal settlements in its service area.](#)

**These measures have led to revenue losses for utilities.** Global Water Leaders Group reports that water and wastewater utilities around the world expect to see revenue collections reductions of 15 percent on average as a result of the COVID-19 crisis. In the medium term, well-governed markets are likely to compensate for revenue losses through installment payments of deferred amounts, government transfers, and possibly tariff adjustments. These measures might also impact utility governance and user payment culture, especially if prolonged for extended periods.

**Capital expenditures will decline in the short to medium term:** New capital projects are likely to be delayed as municipalities prioritize Opex and emergency response. [Global Water Intelligence \(GWI\)](#) estimates capital expenditures in the water sector will decline during the 2020–21 period, after which it may resume at pre-crisis forecast levels. A downward adjustment of 7 percent in the global water sector Capex projections for 2020 is expected. It is currently unclear by how much the water and sanitation Capex will decline and how long it will take to return to pre-crisis investment levels.

**Operations could be affected by the increased risk of contagion among utility staff, including both routine operations and construction works.** Operational continuity and flexibility are key to keep essential water and sanitation services running, while also pushing forward ongoing construction. Many governments identified people working in the water and sewerage industry as essential workers, enabling utilities to maintain continuity of service. However, social distancing protocols mean that utilities can only retain operationally critical staff on site. Supply chain and logistics disruptions have also been reported.

**The evidence from markets where IFC does business shows that financially robust utilities are coping well.** Most utilities, including traditionally overbanked blue-chip utilities, are experiencing short-term revenue shortfalls and less favorable borrowing conditions. However, these utilities are generally able to bridge these liquidity gaps, while also progressing with pre-crisis Capex plans, albeit with some delays or changes in financing plans.

## RESPONSE TO THE CRISIS

**Addressing historical gaps in the water supply.** In the short term, countries are addressing the historical access gap through emergency facilities such as water trucks. South Africa, for example, has set up water supply points across the country for hand washing. Similar measures have been adopted in Ghana and Peru. In the medium to long term, a clear lesson from the crisis is water and sanitation systems to underserved areas must be expanded and improved. According to Suez, a global leader in the water sector, COVID-19 has accelerated project awards in a few markets, as the importance of water and sanitation became clearer due to the pandemic. Water and sanitation projects also form part of economic stimulus public expenditures announced in some countries, such as South Africa.

**Construction.** Some companies are adapting their construction plans to ensure that work continues safely, even at a slower pace or with fewer workers. An IFC client working in Rwanda reported that they were able to get authorization to conduct limited construction work through the lockdown period by following safety precautions that required the company to reduce the number of workers on-site from 500 to 170.

**Communications.** Water utilities are also undertaking communication campaigns to raise awareness of the importance of good hygiene practices to prevent the spread of COVID-19. Utilities can spread educational messages on water, sanitation, hygiene, and disease prevention to change behaviors. Communications and community engagements should focus on the role of women, who carry a disproportionate burden—besides being primary caregivers, they make up 70 percent of healthcare and social workers.

**Automation.** Companies with good systems to remotely control and operate networks and treatment plants usually perform better during the crisis. Similarly, automated protocols for responding to occurrences (such as pipe bursts) will allow for efficient response, with a lower degree of physical interaction among staff.

IFC has been proactive in three areas in response to COVID-19 in the water sector:

- a) **Crisis response for existing clients.** IFC has set up a rapid response liquidity financing facility to support long-term clients that have demonstrated strong operational and financial performance in the face of declining revenues and tightening liquidity from commercial banks.
- b) **Supporting water companies with long-term Capex to build resilience.** IFC is providing long-term financing to support water utilities undertaking critical Capex projects that ensure continuity of service in the short to medium term.
- c) **Knowledge sharing and capacity building.** IFC is hosting webinars on crisis recovery peer learning for water utilities jointly with the World Bank's Water Global Practice.

## GOING FORWARD

**COVID-19 has reinforced the importance of access to safe and reliable water.** Capital projects may be delayed, but an economic stimulus could mitigate the impact of declining revenues to fund Capex. Stakeholders should seek to re-prioritize the water sector after decades of under-investment and lack of political prioritization of water.

**Lasting lessons on crisis preparedness and resiliency of staff, systems, and equipment could lead to increased investments in digital solutions.** The pandemic may help to boost the application of automation and remote-control processes as they become ever more crucial at times like these. Taking the COVID-19 effect into account, GWI estimates global spending on digital solutions to grow 8 percent annually, on average, from \$32 billion in 2019 to \$47 billion by 2024.

**Automated customer interfaces today may allow for a change in culture going forward.**

COVID-19 social distancing measures will push companies and customers to avoid contact in physical utility services centers and prioritize the use of other channels of engagement. More customer-utility interactions may be conducted via phone, apps, or the internet, which are often already available.

**IFC will execute initiatives to support the sector, including** (a) supporting the continuity of investments in essential capital expenditures and progress towards SDG 6, (b) supporting the digitalization and improving energy efficiency in water utilities to build resilience for the future, (c) supporting the scale-up of wastewater reuse as a cost-effective solution to water scarcity by strengthening upstream activities to create markets, and (d) systematically developing the water investment pipeline by structuring mechanisms to de-risk private investments using instruments such as the hybrid annuity model, World Bank Group guarantees, or Blended Finance.

*June 2020*

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