

Chapter 13

COVID-19 and the human rights to water and sanitation

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Abstract

The coronavirus (COVID-19) pandemic coincides with the tenth anniversary of the recognition of the rights to water and sanitation within the United Nations system. Although water, sanitation and hygiene (WASH) remain critical for COVID-19 infection prevention and control, billions of people around the world lack access to basic WASH services in different spheres of life. Mostly affected are people living in vulnerable situations. While the pandemic has significantly impacted regulatory practices and access, key actors in the WASH sector continue to adopt diverse approaches to ensure safety, continuity, and reliability of supply. This chapter explores how COVID-19 influences WASH services and how the rights to water and sanitation can ultimately strengthen resilience to health pandemics? It makes recommendations from the perspective of inclusive development theory, for strengthening WASH sector governance towards ensuring the progressive realization of the rights to water and sanitation during and post the COVID-19 pandemic.

Experiences with the coronavirus pandemic illustrate the crucial importance of access to water and sanitation as basic human rights and as necessities for the realization of health, education, food, gender equality, and other human rights (United Nations [2020](#)). Emergent issues, particularly include the high public health risks associated with lack of water and

sanitation and the disproportionate burden borne by women and girls, transgendered people, people living in informal settlements, people living with disabilities, the urban poor, migrant workers, workers in the informal sector, people who are sick or living with underlying health conditions, the elderly, school-aged children, and other groups living in vulnerable situations (Banerji 2020; Tan 2020; UNESCO n.d.). These highlight intersecting layers of inequalities in different situations of vulnerability and the interconnectedness of human rights. The pandemic has also demonstrated the imperative of leaving no one behind and ensuring universal access to water and sanitation to achieve sustainable development. From Africa to the Pan-European region, it is a similar picture: there are remarkable inequities in access to water and sanitation based on whether people live in urban or rural areas, whether people are rich or poor, and whether they have any special circumstances which render them vulnerable (Local Burden of Disease WaSH Collaborators 2020; Wang et al. 2019; World Health Organization & UN-Water 2019; United Nations 2020). Furthermore, because of the pandemic, several assumptions and modes of service delivery need to be reexamined to ensure continued suitability for promoting universal access to water and sanitation. It is in light of these realizations that this chapter examines the question: How has COVID-19 influenced water, sanitation and hygiene services and how can the rights to water and sanitation strengthen resilience in health pandemics? This question is addressed from the perspective of inclusive development theory which emphasizes the need to address the social, relational, and ecological aspects of human development (Gupta, Pouw, & Ros-Tonen 2015).

1 Evolution of the rights to water and sanitation over the past decade

The past decade represents a significant milestone in the evolution of water and sanitation as human rights within the United Nations (UN) system. The General Assembly in July 2010 adopted Resolution 64/292 recognizing ‘the right to safe and clean drinking water and

sanitation as a human right that is essential for the full enjoyment of life and all human rights' (General Assembly [2010a](#), para. 1). The Resolution was adopted with 122 votes in favor and 41 abstentions, while 29 countries were absent (General Assembly [2010b](#)). The lack of opposing votes and the largely political and procedural reservations expressed by the countries voting on the Resolution was an indication of the widespread appreciation of the important human rights status of water and sanitation, particularly at the international level (Obani & Gupta [2015](#)). The Human Rights Council affirmed in October 2010, in its Resolution 15/9 on *Human Rights and Access to Safe Drinking Water and Sanitation*,

that the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity.

(Human Rights Council [2010](#), para. 1)

Both resolutions are remarkable for establishing the legal basis for recognizing water and sanitation as international human rights, despite the lack of explicit mention in the International Bill of Rights.¹ Treaty bodies such as the Committee on Economic, Social and Cultural Rights (CESCR) have also recognized that the right to water is essential for realization of the right to an adequate standard of living in article 11(1) of the International Covenant on Economic, Social and Cultural Rights and other economic, social, and cultural rights. Instances can be found in General Comment No. 6 of 1995 on the economic, social, and cultural rights of older persons and in General Comment No. 15 of 2002 on the right to water, which links the right to water to an adequate standard of living, the highest attainable standard of health, adequate housing and food, life and human dignity. Similarly, the Human Rights Committee, the monitoring body for the International Covenant on Civil and Political Rights has specified in its General Comment No. 36 of 2018 on the right to life, para. 26, that water is essential for guaranteeing the right to life. States parties have a duty to take

appropriate measures to address direct threats to life or conditions which will prevent the enjoyment of the right to life with dignity.²

While the rights to water and sanitation have evolved closely in international human rights law and water and sanitation services are often combined in the international development agenda, the distinctiveness of the right to sanitation from the right to water and the need for their separate consideration in some contexts was earlier recognized by the CESCR in its 2010 statement on the right to sanitation. The distinctiveness of the right to sanitation was also recognized in the General Assembly Resolution 70/169 in 2015, which signaled the recognition of the right to sanitation as an independent right. This is in line with scholarly arguments for delinking water and sanitation in policy and practice to promote the normative development and progressive realization of the latter right especially (Ellis & Feris 2014; Obani & Gupta 2015).

The past decade has witnessed a greater impetus for universal access to water and sanitation, as part of the international development agenda. This is a testament to the growing influence of the human rights to water and sanitation in policy and practice. For instance, the Sustainable Development Goals (SDGs) prioritize achieving by 2030 ‘universal and equitable access to safe and affordable drinking water for all’ (SDG 6.1) and ‘access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations’ (SDG 6.2). In contrast, the earlier UN Millennium Declaration adopted in September 2000 and the Plan of Implementation of the World Summit on Sustainable Development focused on halving by 2015 the proportion of people without access to an improved drinking water source and/or to improved sanitation, particularly in developing countries (Fukuda, Noda & Oki 2019; Obani 2020). The past decade has also witnessed an increase in the promotion of the rights to water and sanitation, both implicitly and expressly, through national constitutions, domestic laws,

judicial decisions, and domestic human rights institutions (WaterLex [2014a](#); WaterLex [2014b](#)). There has been significant progress in the normative development of the rights to water and sanitation over the past decade and significant progress in understanding best practices for progressive realization.

Remarkably, there is growing emphasis on addressing inherent limitations of the rights which affect utility value (Feris 2015; Hall, Van Koppen, & Van Houweling [2014](#)) and on improving the synergies and interrelations between the rights to water and sanitation, water governance broadly and other related rights to reduce tensions and improve mutual gains in practice (Water Supply & Sanitation Collaborative Council (WSSCC) & United Nations Human Rights Office of the High Commissioner (OHCHR) 2020; Obani & Gupta [2014](#); Barry [2020](#); Viñuales [2019](#)). Concerns also remain around the drivers of lack of access (Sinharoy, Pittluck, & Clasen [2019](#)); the role of States and other actors (including the private sector, development partners, implementing partners and others involved in the water and sanitation sectors) towards promoting the realization of the rights to water and sanitation (Alston [2018](#)); limitations of a purely technocratic approach to implementing the rights to water and sanitation (Birkenholtz [2016](#)); and best practices for ensuring inclusive access to and allocation of water and sanitation and promoting the accountability of all relevant stakeholders particularly for the most vulnerable and marginalized groups that are characteristically left behind and excluded from accessing water and sanitation services (World Health Organization, UN-Water [2019](#); Heller [2018](#); Joshi [2017](#); WSSCC [2020](#)).

The impact of environmental disasters, climate change, public health crises, and (financial, natural, and other) resource constraints also continue to drive interest in improving the resilience of water and sanitation infrastructure and governance systems (McGranahan [2015](#); Johannessen et al. [2014](#)). Against this background, the normative content of the rights to water and sanitation – namely, availability; accessibility; safety; affordability; and

acceptability – offer a basis for assessing the quality of service delivery and promoting continuous and reliable access for everyone, during and post-crisis.

2 Impacts of COVID-19 on water and sanitation services

Infection prevention and control during the pandemic requires continuous and reliable access to water, sanitation, and hygiene (WASH) services, including sufficient residual chlorine in water supplies, among other recommended measures. There are also concerns about the risks of contamination of the water cycle and the need for environmental sanitation management to prevent COVID-19 transmission and environmental degradation generally (Patrício Silva et al. [2021](#); Vardoulakis et al. [2020](#)). Moreover, there are indications that wastewater surveillance can contribute to the management of COVID-19 (World Health Organization [2020](#); Street et al. [2020](#); Daughton [2020](#); Bogler et al. [2020](#)). Recognizing the importance of water and hygiene for the control of transmission and management of COVID-19, there has been an increasing focus on ensuring continuous, safe, and reliable basic water and hygiene services in many countries. Overall, the COVID-19 pandemic has impacted the rights to water and sanitation in at least three ways: (a) availability of services; (b) affordability and other economic impacts on consumers and operators; and (c) impacts on governance and regulation of services.

2.1 Availability of services

With most people confined to their homes during lockdowns, there was significant increase in domestic demand for water. Jordan recorded an increase of 40 percent in domestic demand for water supply during the early stages of the pandemic (Jordan, [2020](#)). People could increasingly resort to open defecation due to the inaccessibility of public toilets or fear of infection from using shared toilets during the pandemic. In countries such as the United Kingdom, for instance, the closure of public lavatories during the early lockdown was shown to have reduced the availability of WASH facilities (Khan [2020](#); Brown [2020](#)). There are also

reports of healthcare facilities and quarantine centers in several countries that were operating without adequate WASH services, thereby increasing the risk of infection among populations in vulnerable situations (Kumari & Pisharody [2020](#); Human Rights Watch [2020](#)). The negative impacts of the pandemic on availability, coupled with increased demand for WASH services, are likely to impede progress with access to improved water sources and the eradication of open defecation.

The widespread closure of borders and ensuing global supply chain disruptions at the beginning of the pandemic also resulted in shortages of menstrual hygiene materials and other hygiene supplies in some countries, exacerbating period poverty and hygiene-related health risks to women and girls (Plan International [2020](#); Ortman [2020](#)). Household sanitation and hygiene supplies such as toilet rolls and hand sanitizers were often among the items which consumers hoarded at the beginning of the lockdowns, leading to temporary scarcity and significant price hikes in several countries (Mao [2020](#); Mullen [2020](#); Agence France-Presse [2020](#)). Under such circumstances, people are forced to resort to unhygienic alternatives and practices which endanger their health and increase the risk of environmental degradation.

2.2 Affordability and other economic impacts on consumers and operators

The loss of income and the economic downturn during the pandemic has affected the ability of some persons to pay their bills and/or access basic WASH services, particularly for consumers who rely on private service providers (Gout & Kelly [2020](#); Carman & Nataraj [2020](#)). A recent report of the immediate past Special Rapporteur on the human rights to safe drinking water and sanitation, Léo Heller ([2020](#)), focused on human rights and the privatization of water and sanitation services, and draws from experiences during pandemics in South Africa, Spain, and Brazil. He hints at the distinct approaches to service delivery by

the private sector, concerned with the economic sustainability of their operations and the right to disconnect customers for non-payment of bills, and the public sector and civil society organizations, concerned with universal access irrespective of consumers' economic ability.

The report highlights that:



[T]he coronavirus disease (COVID-19) pandemic in 2020 ... mak[es] clear the need for States to intervene in the water sector by suspending payments of water bills, temporarily prohibiting disconnections and reconnecting people to services in order to ensure sufficient water for handwashing.

(Heller 2020, para. 11)



The COVID-19 pandemic-related measures have also increased or at least altered the means and related cost of providing basic services, particularly for vulnerable groups, with the potential effect of eroding the progress made so far with advancing national, regional, and global development goals such as the SDGs. Utilities have incurred additional costs related to either adapting their operations to the crisis or implementing the regulatory requirements for ensuring the safety of their operations, sourcing materials and services for their operations, and other general challenges with keeping their businesses running during the pandemic (Butler et al. 2020). They are also exposed to billing losses and reduced revenues linked to COVID-19 related measures (Butler et al. 2020), while some who are reliant on foreign loans and equipment and materials have sustained losses due to fluctuations in the value of the dollar. Utilities may not have recorded any significant increase in water consumption because the shutdown of many businesses and public places during the lockdowns would have offset any additional demand for water by residential consumers. However, the closure of

commercial buildings and industries during the periods of lockdowns may have negatively affected the cross-subsidy systems, due to the loss of earnings from higher paying commercial consumers. Conversely, households are likely to have recorded significant increase in consumption (Kalbusch 2020), at a time when consumers without stable sources of income or savings may be unable to afford tariffs for basic services.

On the flip side, experiences with the pandemic have increased attention to alternative ways of improving the efficiency of the water and sanitation sector in crisis situations, particularly through digitization and automation of processes. This is mainly beneficial to utilities that have the resources to transition to the requirements of the ‘new normal’ without compromising the quality of service delivery in the process.

2.3 COVID-19 and the governance and regulation of services

In the wake of the pandemic, national and subnational governments around the world have enacted laws imposing quarantine, physical distancing, curfews, and other similar measures with implications for the governance of organizations, regulation of services and related human rights. Although operators of water and sanitation services have often been exempted from closure due to the essential nature of their services for preserving human life and wellbeing during the COVID-19 pandemic, the sector is not immune from the broader impacts of COVID-19 response measures. For instance, the initial disruptions to global supply chains due to border closures may have affected access to water treatment chemicals and hygiene materials for operators depending on imported chemicals (Chau et al. 2020). Also, physical distancing obligations and health concerns among the workforce may have limited the ability of service providers and even regulatory agencies to work at their full capacity (Chau et al. 2020).

The fast pace of regulatory changes and developments with the pandemic require coordination with various stakeholders, including various levels of government responsible

for the regulation of water, sanitation, health and emergencies, service providers, consumers, and other key stakeholders. In the case of Brazil, water and sanitation services fall under the regulatory competence of the municipal government (Werneck 2020). Nonetheless, over 50 regulatory instruments affecting water and sanitation have been passed during the COVID-19 pandemic, by other levels of government as well, often without prior technical support and interaction between the various levels. The lack of coordination between government agencies and other stakeholders in the water and sanitation sector, particularly operators, negatively affects regulatory efficiency and outcomes in practice (Obani & Gupta 2014). In one instance in Brazil, the legislative assembly of one federal district passed an emergency regulation providing that everyone consuming less than 10 cubic meters of water per month should be entitled to free services (Werneck 2020). This amounted to 60–70 percent of the total number of consumers in that federal district; subsequent consultations with the regulatory agency revealed that the regulation would result in around \$20 million in revenue loss (Werneck 2020). This realization led to a review of the regulation so that only those consuming less than 10 cubic meters of water per month and registered as a low-income household would be entitled to the free services, thereby reducing the revenue loss reduced to around \$6 million (Werneck 2020).

The fast pace of changes during the COVID-19 pandemic also has implications for the number of enquiries, demands, or complaints from consumers, increasing the workload for service providers and regulators (Chau et al. 2020). Furthermore, there has been widespread reprioritizing of scheduled activities of operators and regulators, to refocus attention on the immediate needs during the pandemic (Chau et al. 2020). In some cases, the COVID-19 pandemic has affected the quality of data available for planning purposes as regulators face constraints in conducting new surveys during the pandemic (Chau et al. 2020).

3 Human rights implications of measures adopted for water and sanitation services during the pandemic

3.1 Affordability and flexible payment options

Extension of free or subsidized services to existing consumers, cash-based interventions for households, and price control mechanisms are some of the policies so far adopted for ensuring affordability of WASH services during the COVID-19 pandemic (Capodeferro & Smiderle 2020). Other interventions adopted by several countries, particularly during the early months of the pandemic, include targeted tariff reduction strategy for specified consumers, reconnection of consumers, suspension of service disconnections due to non-payment of tariffs and other similar changes in billing methods, suspension of procedures for payment defaults including fines and interests on late payments and the listing of consumers owing tariffs in public debtors' lists (Capodeferro & Smiderle 2020; UNICEF 2020). Such interventions are often mainly beneficial to consumers who are already linked to the network and may inadvertently widen the service gap between the served and the un/underserved in the absence of deliberate efforts for service expansion during the pandemic. Considering this, policies for affordability ought to be combined with the deliberate expansion of services to vulnerable populations and those without piped connections, including through the adoption of emergency solutions and alternative supply options, repair of leakages, and promotion of conservation and behavioral change to support the efficient use of available WASH services.

The availability of financial support from the government to the water and sanitation sector in some countries may have cushioned operators from significant increases in operation cost, thereby ensuring that tariffs remained stable for consumers. While it is not yet clear how much of COVID-19 recovery funds from government and other stakeholders are invested in the WASH sector, the human rights framework requires the application of

maximum available resources for the progressive realization of universal access. Legal and systemic barriers to the progressive realization of universal access to water and sanitation ought to be removed, including through legal reform to formally recognize the obligations of the government relating to water and sanitation services. In practice, progressive realization requires improvements in the number of persons served, as well as the quality of service which they access (Heller [2015](#)). This would require monitoring and disaggregation of the data on access and service levels, to understand the intersecting drivers of access and identify persons who need the most assistance with affordability measures and other forms of support to improve their access levels.

3.2 Physical accessibility

Governments, development partners, and other key stakeholders have adopted several approaches for ensuring the accessibility of WASH services during the pandemic, including promoting widespread local production and direct distribution of hygiene materials, provision of WASH services in public settings, and utilities increasing water supply volumes and service hours to meet surge in demand (UNICEF [2020](#)). The courts have also played a key role in compelling the executive arm of government to respect the rights to basic services during the COVID-19 pandemic, for instance in Zimbabwe where the right to water is recognized in the national constitution (Tapfumaneyi [2020](#)).

Whereas the human rights framework does not prescribe technical guidelines for availability, accessibility, or any other normative content, it is important that as a minimum, the design and quality of the infrastructure, materials, and services do not compromise the safety of users or the environment. The COVID-19 pandemic makes it more critical to ensure proper education on the operation and maintenance of the infrastructure. Furthermore, the number of functional water service points and sanitation facilities should be sufficient to encourage proper use and physical distancing while also minimizing the waiting time for

users and crowds around the service points and facilities, in order to reduce the risk of community transmission. It is also necessary to carefully consider precautionary public health measures and options for service delivery with minimal physical contact between the operators and consumers, including suspension of field visits except for handling urgent complaints and repairs and equipping the workers with sufficient personal protective equipment (PPE) and hygiene supplies.

The exigencies of the COVID-19 pandemic hindered the full implementation of drinking water quality control and solid management plans, especially during the start of the pandemic (Chau et al. 2020). This required the identification of regulatory measures to safeguard reliable supply of services, including the adoption of some degree of flexibility by utilities and service providers in meeting service requirements. Utilities are also inclined to increase digitalization and automation of their processes, where possible, to improve the resilience of their operations and risk preparedness (Chau et al. 2020). Notwithstanding, such flexibility must not compromise the safety of users and the workers involved in the delivery of the WASH services. Neither should there be an overreliance on digital solutions and automation of processes resulting in a relapse into a technocratic approach to the delivery of WASH services at the expense of the rights and wellbeing of the public.

3.3 Access to information, participation, and accountability

With the COVID-19 pandemic, major concerns at the onset were access to information about the disease and government response measures and expectations of the citizens (Human Rights Watch 2020). In addition to access to service points and facilities for infection prevention and control, information about the proper use of the facilities and compliance measures for COVID-19 prevention and control are also critical for ensuring good health outcomes. Over time, many countries, development partners, and other key stakeholders have adopted various approaches for improving access to information about COVID-19 (including

proper handwashing, hygiene, proper use of infrastructure, proper use and disposal of personal protective equipment and face masks and how to comply with infection prevention and control measures to ensure effectiveness) and public access to figures on confirmed COVID-19 cases, recoveries, and fatalities (UNICEF [2020](#)). Many countries, such as Nigeria, Ghana, the United Kingdom, Brazil, and China, are maintaining ongoing communication with the public, including through dedicated webpages with official information on COVID-19 and helplines for the public to contact about COVID-19 symptoms or related concerns.

Improved access to information has been important to empowering the population to cope better with COVID-19, protecting themselves against infection and seeking health assistance from the proper channels, and strengthening their health outcomes overall. Access to information about governments' financial, economic, and social policy responses to the COVID-19 pandemic has also facilitated requests for accountability over the decision making and implementation of the relevant policies by the government and other key stakeholders charged with managing the COVID-19 pandemic (Arce & Forti [2020](#)). There have also been efforts to facilitate the participation of key stakeholders and left behind groups in the promotion of infection prevention and control and compliance monitoring within the population. Approaches adopted for this include partnering with the representatives of key stakeholders and left behind groups to disseminate COVID-19 information, context-specific communication materials and targeted behavior change and hygiene messaging. For instance, in the Middle East and North Africa (MENA) region, UNICEF adopted the approach of training religious leaders on COVID-19 information to reach millions of local people with information about good handwashing and hygiene practices and engaged with the Child Advisory Council of the Supreme Council for Women and Childhood in the United Arab Emirates on issues of misinformation over COVID-19 (UNICEF [2020](#)). Similarly, in Egypt,

the IOM engaged leaders of the migrant community through ‘communication corridors’ designed to facilitate constant circular exchanges (UNICEF [2020](#)).

4 Towards sustainability of the rights to water and sanitation

Overall, the COVID-19 pandemic has produced contrary impacts on the rights to water and sanitation. On the one hand, the pandemic has significantly raised the importance of universal access to continuous, safe and reliable water, sanitation, and hygiene services within households and in public places, as a key infection prevention and control measure. The difficulties experienced by vulnerable groups, particularly at the beginning of the pandemic and the lockdowns, have highlighted the disproportionate burden of multidimensional risks which they face during crisis, largely due to poor access to basic services. Notwithstanding, lack of reliable, sufficiently disaggregated official population data remains a major impediment to planning, implementing, and monitoring specific progress in the access and use of WASH and other essential services by those furthest behind. This reinforces the need for progressive implementation of the rights to water and sanitation and the monitoring of progress for various groups within the population, both as a legal obligation of the government and as an important component of risk preparedness.

On the other hand, the COVID-19 pandemic threatens to cause retrogression in the progress made with the eradication of open defecation and access to improved water and sanitation due to the difficulties of accessing basic services due to lockdowns, loss of income, or supply chain disruptions among other factors. To minimize the negative impacts, it is important to ensure that vulnerable groups are prioritized in policies for continuous and reliable supply of safe drinking water, sanitation, and hygiene during the pandemic. This is in line with the human rights principle of the progressive realization of access and requires the use of maximum available resources for this purpose. The resilience of critical supply chains for products required for basic WASH services should also be strengthened as part of risk

preparedness, to ensure that relevant products remain locally available during crisis and the recovery phases.

An analysis of the approaches adopted for the provision of WASH services during the COVID-19 pandemic highlight important lessons for the realization of the rights to water and sanitation, particularly during health pandemics. First, approaches which focus on averages without disaggregating the special needs of vulnerable groups at risk of limited or no access to WASH services will exacerbate inequities in access and raise public health risks. Second, providing access to WASH services during the pandemic may require some degree of flexibility with technical and regulatory standards and increased digitalization of processes. There may also be a need to adapt emergency solutions and alternative temporary approaches for service provision to ensure coverage expansion during the pandemic. These should be deployed in ways that safeguard the health and safety of consumers and service providers. Strengthening institutional governance processes, data integrity and adaptability of institutions should also be part of risk preparedness strategy.

In addition, most of the interventions for improving access to WASH during the pandemic, particularly for vulnerable groups who would otherwise have been left without basic services, have involved partnerships between government and other stakeholders such as development partners, UN agencies, civil society, faith-based organizations, media, and the private sector. Each of these stakeholders strengthened the WASH interventions through their respective attributes, such as their public interest values, financial capacity, legitimacy and motivational qualities, strong grassroots networks, or historical rootedness. This underscores the need for inclusive and participatory governance processes in the WASH sector and the risks of corporate capture. The capacity of various stakeholders who are either directly involved in the delivery of WASH services or whose actions impact the rights to

water and sanitations in any way should be strengthened to promote the progressive realization of the rights and improve coordination within the sector.

Beyond addressing the immediate concerns of the COVID-19 pandemic, it is important to prioritize approaches which can support long-term risk reduction and preparedness and can be consolidated beyond the pandemic. Multi-stakeholder partnerships for promoting universal access to water and sanitation that have been active in the pandemic response should be assessed for responsiveness to various drivers of vulnerability. The partnerships should also be designed with the active participation of the public, bearing in mind spatial, social, cultural, and legal barriers to effective participation of groups in vulnerable situations. It is important for the population, as rightsholders, to be empowered to contribute to operationalizing disaster preparedness and response plans, participatory governance processes, and to generally demonstrate agency in support of the progressive realization of the rights to water and sanitation for all during the next decade.

Furthermore, it is important for utilities to align their emergency response measures with human rights standards. Utilities should also prioritize safe exit strategies from their emergency COVID-19 operations which do not compromise progressive realization of universal and equitable access in the recovery phase. This would entail not only paying attention to technical standards for drinking water safety, for instance, considering that the quality of the stagnant water in building pipelines may have deteriorated during lockdowns, but prioritizing the progressive realization of the rights to water and sanitation including through the adoption of measures that guarantee access to basic services for vulnerable users according to their circumstances and needs. Utilities may also need additional financial or other forms of support from the government and other stakeholders, to improve their capacity to mitigate any negative impacts on their operations caused by the pandemic and the duty to expand services to vulnerable groups.

Overall, COVID-19 has triggered the active engagement of the public and private sector, including multiple stakeholder and grassroots social networks, in efforts to limit the spread of the pandemic and mitigate the resulting social and economic disruptions and other environmental problems (Kanda & Kivimaa [2020](#); Shorfuzzaman, Hossain, & Alhamid [2021](#); Rume & Islam [2020](#)). COVID-19 has significantly influenced the behaviors of individuals and the operations of businesses, particularly in relation to sustainable consumption and environmental awareness (Severo, De Guimarães, & Dellarmelin [2020](#)). Also, the impacts of the pandemic are likely to last into the recovery phase and beyond (Rowan & Laffey [2021](#)). The evidence highlights the potential of COVID-19 to elicit sustainability transitions in diverse sectors (Karmaker et al. [2021](#); Wells, Abouarghoub, Pettit, & Beresford [2020](#)). As regards water and sanitation, the pandemic could similarly shape a transition to inclusive service delivery models and be used in collective demands and claims by social groups requesting national and local authorities to respect, protect, and fulfill the human rights to water and sanitation (Parikh, Diep, Gupte, & Lakhanpaul [2020](#)).

Bibliography

Action Against Hunger 2020, 'Quarantine and Isolation Center Alert', July 2020, viewed 2 October 2020, [www.actioncontrelafaim.org/wp-content/uploads/2020/07/ACF-](http://www.actioncontrelafaim.org/wp-content/uploads/2020/07/ACF-Quarantine-Center-Alert-V3.pdf)

[Quarantine-Center-Alert-V3.pdf](http://www.actioncontrelafaim.org/wp-content/uploads/2020/07/ACF-Quarantine-Center-Alert-V3.pdf)

Agence France-Presse 2020, 'Toilet Rolls, Hand Sanitisers, Masks Fly Off Shelves Amid Coronavirus Fears', NDTV, 5 March 2020, viewed 5 October 2020,

[www.ndtv.com/world-news/toilet-rolls-hand-sanitisers-masks-fly-off-shelves-amid-](http://www.ndtv.com/world-news/toilet-rolls-hand-sanitisers-masks-fly-off-shelves-amid-coronavirus-fears-2190143)

[coronavirus-fears-2190143](http://www.ndtv.com/world-news/toilet-rolls-hand-sanitisers-masks-fly-off-shelves-amid-coronavirus-fears-2190143)

Alston, P 2018, *Extreme Poverty and Human Rights*, United Nations General Assembly A/73/39.

Amankwah-Amoah, J 2020, 'Stepping Up and Stepping Out of COVID-19: New Challenges for Environmental Sustainability Policies in the Global Airline Industry', *Journal of Cleaner Production*, vol. 271, p. 123000

<https://doi.org/10.1016/j.jclepro.2020.123000>

Arce, S & Forti, J 2020, 'Open Government Approaches to Tackling COVID-19', *Open Government Partnership*, 12 May 2020, viewed 5 October 2020,

www.opengovpartnership.org/stories/open-government-approaches-to-tackling-covid-19/

Banerji, A 2020, 'Coronavirus and Stigma among Priorities for India's new Transgender Council', *Reuters*, viewed 25 September 2020, [www.reuters.com/article/us-india-](http://www.reuters.com/article/us-india-lgbt-council-idUSKBN25L1V1)

[lgbt-council-idUSKBN25L1V1](http://www.reuters.com/article/us-india-lgbt-council-idUSKBN25L1V1)

Barry, KB 2020, *Right to Education*, United Nations General Assembly A/75/178.

Bhowmick, GD, Dhar, D, & Nath, D et al. 2020, 'Coronavirus Disease 2019 (COVID-19) Outbreak: Some Serious Consequences with Urban and Rural Water Cycle', npj *Clean Water*, vol. 3, 32.

Birkenholtz T 2016, 'Drinking Water' in P Jackson, W Spiess, & F Sultana (eds), *Eating, Drinking: Surviving*, Springer, Cham, pp. 23–30.

Bogler, A, Packman, A, Furman, A, Gross, A, Kushmaro, A, Ronen, A et al. 2020, 'Rethinking Wastewater Risks and Monitoring in Light of the COVID-19 Pandemic', *Nature Sustainability*. <https://doi.org/10.1038/s41893-020-00605-2>.

Brown, A 2020, 'The Pandemic Has Closed Public Restrooms, and Many Have Nowhere to Go', *PEW*, 23 July, viewed 2 October 2020, www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2020/07/23/the-pandemic-has-closed-public-restrooms-and-many-have-nowhere-to-go

- Butler, G, Pilotto RG, Hong Y & Mutambatsere E, 2020, The Impact of COVID-19 on the Water and Sanitation Sector, IFC World Bank Group, viewed 5 October 2020, www.ifc.org/wps/wcm/connect/126b1a18-23d9-46f3-beb7-047c20885bf6/The+Impact+of+COVID_Water%26Sanitation_final_web.pdf?MOD=AJPERES&CVID=ncaG-hA
- Capodeferro, MW & Smiderle, JJ 2020, 'The Brazilian Sanitation Sector's Response to COVID-19', *Revista de Administração Pública*, vol. 54, no. 4, pp. 1022–1036.
- Carman, KJ & Nataraj, S 2020, *How are Americans Paying Their Bills during the COVID-19 Pandemic?*, Rand Corporation, viewed 5 October 2020, www.rand.org/pubs/research_reports/RRA308-3.html
- Chau, S, Albuquerque, A, Guerrini, A, & Werneck, J 2020, 'COVID-19: The Regulators' Response in Brazil', 29 April, online video, viewed 5 October 2020, <https://iwanetwork.org/learn/covid-19-a-regulators-response/>
- Daughton, CD 2020, 'Wastewater Surveillance for Population-wide Covid-19: The Present and Future', vol. 736, p. 139631.
- Ellis, K & Feris, L 2014, 'The Right to Sanitation: Time to Delink from the Right to Water', *Human Rights Quarterly: A Comparative and International Journal of the Social Sciences, Philosophy, and Law*, vol. 36, no. 3, pp. 607–629.
- Feris, L 2015, 'The Human Right to Sanitation: A Critique on the Absence of Environmental Considerations', *Review of European, Comparative & International Environmental Law*, vol. 24, no. 1, pp. 16–26.
- Fukuda, S, Noda, K & Oki, T 2019, 'How Global Targets on Drinking Water Were Developed and Achieved', *Nature Sustainability*, vol. 2, no. 5, pp. 429–434.

General Assembly 2010a, *Resolution Adopted by the General Assembly on 28 July 2010*

64/292: *The Human Right to Water and Sanitation*, United Nations General Assembly A/RES/64/292.

General Assembly 2010b, *General Assembly Adopts Resolution Recognizing Access to Clean Water, Sanitation as Human Right, by Recorded Vote of 122 in Favour, None Against, 41 Abstentions*, United Nations, viewed 1 October 2020,

www.un.org/press/en/2010/ga10967.doc.htm

Gout, E & Kelly, C 2020, 'Bridging the Water Access Gap Through COVID-19 Relief', *Center for American Progress*, 5 August, viewed 2 October 2020,

[//www.americanprogress.org/issues/green/news/2020/08/05/488705/bridging-water-access-gap-covid-19-relief/](https://www.americanprogress.org/issues/green/news/2020/08/05/488705/bridging-water-access-gap-covid-19-relief/).

Gupta, J, Pouw, N & Ros-Tonen, M 2015, 'Towards an Elaborated Theory of Inclusive Development', *European Journal of Development Research*, vol. 27, pp. 541–559.

<https://doi.org/10.1057/ejdr.2015.30>.

Hall RP, Van Koppen B, & Van Houweling E 2014, 'The Human Right to Water: the Importance of Domestic and Productive Water Rights', *Science and Engineering Ethics*, vol. 20, no. 4, pp. 849–868. doi:10.1007/s11948-013-9499-3.

Heller, L 2015, *Different Levels and Types of Services and the Human Rights to Water and Sanitation*, United Nations General Assembly A/70/203.

Heller, L 2018, *Expert Consultation on the Human Rights to Water and Sanitation of Forcibly Displaced People in Need of Humanitarian Assistance – Organized by the UN Special Rapporteur on the Human Rights to Safe Drinking Water and Sanitation*, Léo Heller, held on 16–17 May 2018, Geneva.

Heller, L 2020, *Human Rights and the Privatization of Water and Sanitation Services*, United Nations General Assembly A/75/208.

Human Rights Council 2010, *Resolution Adopted by the Human Rights Council 15/9: Human Rights and Access to Safe Drinking Water and Sanitation*, United Nations Human Rights Council A/HRC/RES/15/9.

Human Rights Watch 2020, 'Human Rights Dimension of COVID-19 Response', *Human Rights Watch*, 19 March, viewed 2 October 2020,

www.hrw.org/news/2020/03/19/human-rights-dimensions-covid-19-response

Jafri, AA 2020, 'No Food, Water, or Even Soap: Migrant Workers in Quarantine Desperate to Return Home', *News Click*, 17 April, viewed 2 October 2020,

[www.newsclick.in/Uttar-Pradesh-Migrant-Workers-Quarantine-Conditions-COVID-](http://www.newsclick.in/Uttar-Pradesh-Migrant-Workers-Quarantine-Conditions-COVID-19)

[19](http://www.newsclick.in/Uttar-Pradesh-Migrant-Workers-Quarantine-Conditions-COVID-19)

Johannessen, A, Rosemarin, A, Thomalla, F, Swartling, AG, Stenström, TA, Vulturius, G 2014, 'Strategies for Building Resilience to Hazards in Water, Sanitation and Hygiene (WASH) Systems: The Role of Public Private Partnerships', *International Journal of Disaster Risk Reduction*, vol. 10, no. A, pp. 102–115.

<https://doi.org/10.1016/j.ijdrr.2014.07.002>.

Jordan – Socio-economic Framework for COVID-19 Response, viewed 5 October 2020,

[https://reliefweb.int/sites/reliefweb.int/files/resources/JOR_Socioeconomic-](https://reliefweb.int/sites/reliefweb.int/files/resources/JOR_Socioeconomic-Response-Plan_2020.pdf)

[Response-Plan_2020.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/JOR_Socioeconomic-Response-Plan_2020.pdf)

Joshi, N 2017, 'Low-income Women's Right to Sanitation Services in City Public Spaces: A Study of Waste Picker Women in Pune', *Environment & Urbanization*, vol. 30, no. 1, pp. 249–264. DOI: 10.1177/0956247817744932.

Kalbusch A, Henning E, Brikalski MP, Luca FV & Konrath AC 2020, 'Impact of Coronavirus (COVID-19) Spread-prevention Actions on Urban Water Consumption', *Resource, Conservation, and Recycling*, vol. 163, p. 105098.

doi:10.1016/j.resconrec.2020.105098.

Kanda, W, Kivimaa, P 2020, 'What Opportunities Could the COVID-19 Outbreak Offer for Sustainability Transitions Research on Electricity and mobility'?, *Energy Research & Social Science*, vol. 68, p. 101666 <https://doi.org/10.1016/j.erss.2020.101666>

Karmaker, CL et al. 2021, 'Improving Supply Chain Sustainability in the Context of COVID-19 Pandemic in an Emerging Economy: Exploring Drivers Using an Integrated Model', *Sustainable Production and Consumption*, vol. 26, pp. 411–427 <https://doi.org/10.1016/j.spc.2020.09.019>.

Khan, C 2020, 'Public Inconvenience: How Lockdown Caused a Loo Crisis', *The Guardian*, 9 June, viewed 2 October 2020, www.theguardian.com/society/2020/jun/09/public-inconvenience-lockdown-loo-crisis-restrictions-easing-uk-no-public-toilets

Kiefer, T & Brölmann, C 2005, 'Beyond State Sovereignty: The Human Right to Water', *Non-State Actors and International Law*, vol. 5, no. 3, pp. 183–208.

Kumari, N & Pisharody, A 2020, *Bangalore Quarantine Centres: No Food, No Water and no Hygiene*, Gauri Lankesh News, 4 June, viewed 2 October 2020, <https://gaurilankeshnews.com/bangalore-quarantine-centres-no-food-no-water-and-no-hygiene/>

Local Burden of Disease WaSH Collaborators 2020, 'Mapping Geographical Inequalities in Access to Drinking Water and Sanitation Facilities in Low-income and Middle-income Countries, 2000–17', *Lancet Glob Health*, vol. 8, pp. e1162– e1185.

Mao, F 2020, 'Coronavirus Panic: Why Are People Stockpiling Toilet Paper?', *BBC News*, 4 March 2020, viewed 5 October 2020, <https://www.bbc.com/news/world-australia-51731422>

McGranahan, G 2015, 'Realizing the Right to Sanitation in Deprived Urban Communities: Meeting the Challenges of Collective Action, Coproduction, Affordability, and Housing Tenure', *World Development*, vol. 68, pp. 242–253.

Mullen, C 2020, 'Toilet Paper's back, but These Items Have Become Hard to Find', *The Business Journals*, 20 July, viewed 5 October 2020,

<https://www.bizjournals.com/bizwomen/news/latest-news/2020/07/toilet-papers-back-these-items-hard-to-find.html?page=all>

Obani, P 2020, 'SDG 6.2 and the Right to Sanitation: Exploring the Complementarities and Incoherence', *UNIPORT Journal of International and Comparative Law*, vol. 1, no. 1, pp. 1–17.

Obani, P & Gupta, J 2014, 'Legal Pluralism in the Area of Human Rights: Water and Sanitation', *Current Opinion in Environmental Sustainability*, vol. 11, pp. 63–70.

Obani, P & Gupta, J 2015, 'The Evolution of the Right to Water and Sanitation: Differentiating the Implications', *Review of European, Comparative & International Environmental Law*, vol. 24, no. 1, pp. 27–39. doi:10.1111/reel.12095.

Ortman E 2020, 'Women Struggle to Access Menstrual products during COVID-19 Pandemic', *Society for Women's Health Research*, 27 May 2020, viewed 2 October 2020, <https://swhr.org/women-struggle-to-access-menstrual-products-during-covid-19-pandemic/>

Parikh, P, Diep, L, Gupte, J, & Lakhanpaul, M 2020, 'COVID-19 Challenges and WASH in Informal Settlements: integrated Action Supported by the Sustainable Development Goals', *Cities*, vol. 107, p. 102871 <https://doi.org/10.1016/j.cities.2020.102871>.

Patrício Silva, A. L., Prata, J. C., Walker, T. R., Duarte, A. C., Ouyang, W., Barcelò, D., & Rocha-Santos, T. (2021). 'Increased Plastic Pollution Due to COVID-19 Pandemic: Challenges and Recommendations'. *Chemical Engineering Journal* (Lausanne, Switzerland: 1996), vol. 405, p. 126683. <https://doi.org/10.1016/j.cej.2020.126683>

Plan International 2020, *Coronavirus is Making Periods Worse for Girls and Women*, 28

May 2020, viewed 2 October 2020, <https://plan-international.org/news/2020-05-28-coronavirus-making-periods-worse-girls-and-women>

Rowan, NJ & Laffey, JG 2021, 'Unlocking the Surge in Demand for Personal and Protective Equipment (PPE) and Improvised Face Coverings Arising from Coronavirus Disease (COVID-19) Pandemic – Implications for Efficacy, Re-use and Sustainable Waste Management', *Science of The Total Environment*, vol. 752, p. 142259,

<https://doi.org/10.1016/j.scitotenv.2020.142259>

Rume, T, Didar-UI Islam, SM 2020, 'Environmental Effects of COVID-19 Pandemic and Potential Strategies of Sustainability', *Heliyon*, vol. 6, no. 9, p. e04965

<https://doi.org/10.1016/j.heliyon.2020.e04965>

Severo, EA, De Guimarães, GCF, & Dellarmelin, ML 2020, 'Impact of the COVID-19 Pandemic on Environmental Awareness, Sustainable Consumption and Social Responsibility: Evidence from Generations in Brazil and Portugal', *Journal of Cleaner Production*,

<https://doi.org/10.1016/j.jclepro.2020.124947>

Shorfuzzaman, M, Hossain, MS, & Alhamid, MF 2021, 'Towards the Sustainable Development of Smart Cities through Mass Video Surveillance: A Response to the COVID-19 Pandemic', *Sustainable Cities and Society*, vol. 64, p.102582

<https://doi.org/10.1016/j.scs.2020.102582>

Sinharoy, SS, Pittluck, R, & Clasen, T 2019, 'Review of Drivers and Barriers of Water and Sanitation Policies for Urban Informal Settlements in Low-income and Middle-income Countries', *Utilities Policy*, vol. 60, p. 100957.

<https://doi.org/10.1016/j.jup.2019.100957>

Street, R, Malemaa, S, Mahlangenia, N, & Mathee, A 2020, 'Wastewater Surveillance for Covid-19: An African Perspective', *Science of the Total Environment*, vol. 743, p. 140719.

Tan, Y 2020, 'Covid-19 Singapore: A 'Pandemic of Inequality' Exposed', *BBC News*, viewed 25 September 2020, www.bbc.com/news/world-asia-54082861

Tapfumaneyi, R 2020, 'Residents' Victory as Court Orders Harare City to Deliver Clean Water Daily', *New Zimbabwe*, 2 April, viewed 22 September 2020, www.newzimbabwe.com/residents-victory-as-court-orders-harare-city-to-deliver-clean-water-daily/

Tonne, C 2020, 'Lessons from the COVID-19 Pandemic for Accelerating Sustainable Development', *Environmental Research*, p. 110482
<https://doi.org/10.1016/j.envres.2020.110482>

UNESCO n.d., *Education: From Disruption to Recovery*, viewed 25 September 2020, <https://en.unesco.org/covid19/educationresponse>

United Nations 2020, *The Sustainable Development Goals Report 2020*, United Nations, New York.

United Nations Children's Fund (UNICEF) 2020, UNICEF COVID-19 WASH Response C/3/2020: *COVID-19 WASH Responses by Governments, Water Utilities and Stakeholders in Middle East and North Africa (MENA) Countries*, UNICEF, New York.

UNICEF & World Health Organization (WHO) 2020, *Progress on Drinking Water, Sanitation and Hygiene in Schools: Special Focus on COVID-19*, UNICEF and WHO, New York.

Vardoulakis, S, Sheel M, Lal, A, & Gray, D 2020, 'COVID-19 Environmental Transmission and Preventive Public Health Measures', *Australian and New Zealand Journal of Public Health*, online. doi: 10.1111/1753-6405.13033.

Viñuales, JE 2019, 'The Protocol on Water and Health as a Strategy for Global Water Governance Integration', *International & Comparative Law Quarterly*, vol. 68, no. 1, pp. 175–192. doi:10.1017/S0020589318000362

Wang, C, Pan, J, Yaya, S, Yadav, RB, & Yao, D 2019, 'Geographic Inequalities in Accessing Improved Water and Sanitation Facilities in Nepal', *International Journal of Environmental Research and Public Health*, vol. 16, no. 7, pp. 1269–1281.

<https://doi.org/10.3390/ijerph16071269>

WaterLex 2014a, *The Human Rights to Water and Sanitation in Courts Worldwide: A Selection of National, Regional, and International Case Law*, WaterLex, Geneva.

WaterLex 2014b, *National Human Rights Institutions and Water Governance: Compilation of Good Practices*, WaterLex, Geneva.

Water Supply & Sanitation Collaborative Council (WSSCC) 2020, *Report on Leave No One Behind*, WSSCC, Geneva.

Water Supply & Sanitation Collaborative Council (WSSCC) & United Nations Human Rights Office of the High Commissioner (OHCHR) 2020, *Interdependencies between Water and Sanitation and Other Human Rights. Strengthening Accountability of States and Partners through the Human Rights Council and Voluntary National Review Processes to Leave No One Behind in SDG 6 – Roundtable Report*, WSSCC, Geneva.

Wells, P, Abouarghoub, W, Pettit, S, Beresford, A 2020, 'A Socio-Technical Transitions Perspective for Assessing Future Sustainability Following the COVID-19 Pandemic', *Sustainability: Science, Practice and Policy*, vol. 16, no. 1, pp. 29–36.

Werneck, J 2020, COVID-19: The Regulators' Response in Brazil, 29 April, online video, viewed 5 October 2020, <https://iwa-network.org/learn/covid-19-a-regulators-response/>

World Health Organization (WHO) 2020, *Status of Environmental Surveillance for SARS-CoV-2 virus*, Scientific Brief, WHO, Geneva. WHO/2019-nCoV/Sci_Brief/EnvironmentalSampling/2020.1

World Health Organization, UN-Water 2019, *National Systems to Support Drinking-Water, Sanitation and Hygiene: Global Status Report 2019*. UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) 2019 Report, World Health Organization, Geneva.

¹ Beyond the International Bill of Rights, the rights to water and sanitation have been recognised in a variety of human rights treaties, and international declarations and standards. See for instance, Article 14, paragraph 2, of the Convention on the Elimination of All Forms of Discrimination Against Women stipulates that States parties shall ensure to women the right to 'enjoy adequate living conditions, particularly in relation to [...] water supply'. Article 24, paragraph 2, of the Convention on the Rights of the Child requires States parties to combat disease and malnutrition 'through the provision of adequate nutritious foods and clean drinking water'.

² It is debatable whether the right to life can form the legal basis for the recognition of the right to water (cf. Kiefer & Brölmann 2005). Obani & Gupta (2015) consider some of the limitations that are associated with implying the rights to water and sanitation from other substantive rights rather than explicit recognition of water and sanitation as independent rights.