Policy Review

Managing Risks to Water and Sanitation amid COVID-19: Policy Options for Pakistan

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Access to safe and sufficient amount of water and adequate sanitation is a fundamental right of all human beings. In the wake of Coronavirus Disease (COVID-19) pandemic in Pakistan, a number of measures are required to cope with the future challenges in connection with water and sanitation infrastructure.

This policy review aims to assess the state of water and sanitation infrastructure in Pakistan in the light of COVID-19 pandemic. In particular, it explores recent research, which shows that there is a potential for faecal-oral transmission of the severe acute respiratory syndrome coronavirus (SARS-CoV-2). Moreover, it aims to delve into the state of water and wastewater infrastructure in the country and provides key policy recommendations in these testing times.

**Potential for Faecal-Oral Transmission of Novel Coronavirus (SARS-CoV-2)**

While there is a broad-based consensus on the transmission of SARS-CoV-2 through respiratory means, recent studies show that it can also spread through the faecal-oral route (Xiao et al. 2020 and Gu J, et al. 2020; Wu Y et al. 2020). This does not augur well for a country such as Pakistan where a large proportion of the population does not have access to adequate sanitation facilities. Faecal-oral transmission can enhance the possibility of a massive spread of the disease. Xiao et al. (2020) found that the Coronavirus was evident in the stool of just over 50% of patients. They observed:

“In more than 20% of SARS CoV-2 patients, the viral RNA remained positive in faeces even after negative conversion of the viral RNA in respiratory tract indicating the viral gastrointestinal infection and potential faecal-oral transmission can last even after viral clearance in respiratory tract.”

These findings were supported by Gu et al. (2020), who quoting evidences from 2003 SARS epidemic, found the presence of SARS-CoV-2 in stools of the patients days after they had been discharged from the hospital. This means that symptomatic as well as asymptomatic carriers of the virus may be shedding it and could transmit it to others.

**State of Sanitation in Pakistan**

There are five ‘Fs’ through which faecal to oral transmissions of bacteria happen, i.e. food, flies, fingers, fields, and fluids. As such contaminated surroundings due to the lack of poor disposal of human waste poses major health threats to the population.

The research cited above should be of great concern for Pakistan where open defecation remains a key sanitation issue. The national rate of open defecation went from 29 per cent in 2004-05 to 13 per cent in 2014-15. Despite a significant improvement, this still means that well over 25 million people in Pakistan remain without access to sanitation facilities. This has an increasingly
deleterious effect on the health of public. According to UNICEF (2020), 53,000 children under five annually die from diarrhea due to lack of water and sanitation facilities.

In areas where sanitation facilities such as latrines do exist, the disposal of waste leaves much to be desired. Instead of proper septic tanks, soak pits (which need to be manually emptied) or open drains are prevalent. The untreated sewage, therefore, is a major source of disease. According to Mansuri et al. (2018):

“Some 42 percent of the households in rural Punjab and 60 percent in rural Khyber Pakhtunkhwa have no drains.” The state of affairs in Sindh and Balochistan is even more precarious with over “82 percent of households not connected to any drainage system, generating pools of sewage near dwelling areas in the villages.”

The situation is further exacerbated when water sources of households and community are contaminated as a result of poor wastewater management. In the case of rural Sindh and the Punjab, nearly 82 per cent of the households with flush toilets connected to soak pits have their drinking water source within 50 feet of the toilet (Mansuri et al 2018). However, this is not a rural issue alone. In urban areas too sewers are emptied into natural drains and streams. Less than 4% of wastewater in urban areas is treated. Though piped water is available for a majority of the urban population, the close proximity of water and sewer lines in densely populated areas is a source of faecal contamination.

The situation is worsened when industrial as well as hospital waste is disposed of in a similar manner. With an increase in COVID-19 patients, the waste emanating from the hospital will be very hazardous. And since most of the waste is dumped untreated into water bodies, this poses a significant risk to communities who depend on those waters such as those growing vegetables for sale (Health Hazards 2017) or launderers (dhobi ghats) (Imtiaz 2020). Moreover, there is a risk to the workers responsible for cleaning the sewers. They do so without any personal protection equipment and have always been at risk for contracting diseases through their work. However, with the COVID pandemic, they will be even more at risk and could exacerbate it’s spread.

One of the reasons for this is the lack of oversight and lax implementation of governmental regulations that cater to environmental and public health needs. Though the 18th constitutional amendment provides an opportunity in terms of devolving power to the provinces, key deficiencies in terms of overlapping of institutional jurisdiction (TMA, WASAs, PHEDs, District Councils) cause significant problems (Khalid and Khaver 2019).

**Hygiene and Access to water in Pakistan:**

The COVID-19 outbreak has prompted the health authorities to call for frequent handwashing, but it will require an adequate supply of water as well as soap to communities across the country.
A survey conducted in rural Punjab and Sindh showed that soap was found near handwashing areas in only 25 per cent of households. It further revealed that no respondents washed their hands before feeding their children, and only 07 per cent of people washed their hands after cleaning their children’s bottoms or latrines (Mansuri et al. 2020). This implies that having availability of soap does not necessarily translate into better hygienic practices.

Numerous campaigns being run to promote handwashing assume an unlimited supply of water for households, businesses, markets, schools and even hospitals. The pictorials, infographics and videos depict a faucet with running water. These campaigns call for washing hands at regular intervals. This is problematic for a large percentage of Pakistanis given the lack of continual access of water. In megacities such as Karachi and Lahore, the so-called tanker mafias have gained notoriety for taking advantage of the people who face shortage of water. Unlike rural areas, residents in cities have the necessary infrastructure to provide water directly to homes and businesses. Yet, the water provision varies across the country. In the Punjab 58 per cent of households have more than six hours of water supply a day. Meanwhile, Khyber Pakhtunkhwa has 22 per cent, Sindh has seven per cent, and Balochistan has only three per cent (Mansuri et al 2020). Essentially, some of the key cities in Sindh and Balochistan, including Karachi, Hyderabad and Quetta, remain without adequate supply of water.

While water can serve as a “social capital” in bringing communities together, the lack of access to adequate supplies of water can also be a source of conflict in communities as neighbors try and vie for the limited resource (Anwar et al 2017). Moreover, access to water can pose significant problems in the shape of harassment of girls and women who need to venture out of their homes, sometimes two to three times a day, to fetch water.

As and when the lockdown ends, and as normalcy returns to our communities, the threat of COVID-19 would remain here. This will necessitate greater access to water. Whether we can cater to this ever present and growing need is a question mark.
Policy Recommendations

The COVID-19 pandemic is yet another reminder of the deleterious state of water, sanitation and hygiene in the country. Given what we know thus far in terms of the potential for faecal-oral transmission of Coronavirus, it is imperative to take steps in terms of mitigation of that potential. As such some key recommendations are as follows:

**Short term/ Immediate**

1. Hospitals and medical practitioners should be cognizant of the potential for faecal-oral route of transmission of Coronavirus and plans and procedures should be developed to counter this risk.
2. Institutionalization of local governments is needed to develop plans and actions to counter the risks posed by COVID-19, with special focus on provision of regular supply of water as well as improved mechanisms for sanitation and personal hygiene.
3. Crises intensify inequities in terms of gender and disability. Plans and policies with respect to improving the state of water, sanitation and hygiene must address this concern.
4. Improved Communication with communities across the country in local languages through video and audio messages as well as through social media, highlighting the threat potential faecal-oral transmission poses in addition to respiratory transmission through uniform messaging.
5. There is a need to set up handwashing facilities at public places such as markets, train and bus stations, hospitals. Here, the growing social enterprise sector in Pakistan can play an important role.
6. Sanitary workers should be provided necessary tools and personal protection equipment. They need to be imparted training how to work safely on post-COVID-19 era.
7. In order to conserve water, hand washing campaigns should not focus on using running water to explain proper hand-washing techniques. The focus should be on the use of soap and proper scrubbing of hands as opposed to running water.

**Long-term**

1. Municipalities should be allocated funds for improved Water Supply and Waste Disposal Infrastructure with regular monitoring to ensure that water supplies have no contamination.
2. Treatment and management of municipal wastewater in line with National and Provincial Environmental Regulations must be ensured.
3. There is a need to devise a plan of action to manage faecal waste in rural areas such that it does not contaminate water supplies, thus posing a serious health hazard.
4. There is a need to promote integrated and adaptable water and sanitation decision-making across the national, provincial, district and community level.
References


