



Water quality, sanitation and hygiene in light of COVID-19, 3 April 2020

Water Research Commission (WRC) dialogue on water quality, sanitation and hygiene in light of COVID-19

COVID-19 transmission

The upheaval as a result of the coronavirus (COVID-19) pandemic is unprecedented in recent history. In response, the world is battling to come to terms with the system level shifts required to adequately tackle this virus.

Official guidelines for mitigating the spread of COVID-19 include strict adherence to social distancing, regularly washing or sanitising hands, disinfecting all contact surfaces and covering a sneeze with a tissue or flexed elbow.

WASH (water, sanitation and hygiene) is considered our first line of defence against COVID-19. The World Health Organisation (WHO) has launched a massive global education and awareness campaign focused on WASH principles.

WASH compliance means access to clean water and appropriate sanitation, as well the ability to implement proper cleaning and disinfection measures. However, South Africa's inadequate water infrastructure means that for many of the country's most vulnerable citizens, these measures for preventing contagion are unavailable.

Water infrastructure and the COVID-19 crisis

South Africa's WASH infrastructural challenges require a greater degree of co-ordinated response if the virus is to be contained. The NBI has identified this as an opportunity for our business community to play a pivotal role in safeguarding both our communities and supply chains. This response is two-fold, with the first level being education and awareness raising across our local networks. The next level is wider infrastructural support for the local municipalities in which we operate as businesses.

The NBI has focussed on issues of water and infrastructural insecurity for several years, which places us in a pivotal position to identify key challenges and opportunities going forward. Poor water quality, limited or no water access for large segments of the population and deteriorating sanitation and hygiene infrastructure, are amongst the greatest challenges South Africa faces. These issues are further compounded by unequal access to adequate health care facilities.

In the light of COVID-19, the Water Research Commission (WRC) has identified the need for a consolidated response from experts to address WASH challenges. On 27 March 2020, the NBI participated in a webinar hosted by the WRC, to address these

challenges in the South African context. Dr Nonhlanhla Kalebaila, of the WRC, emphasised the triple issues of water supply, source and quality. Without sufficient access to a clean water supply from a reliable source, vulnerable communities stand a significantly higher chance of becoming infected with COVID-19. This includes the inherent difficulty of complying with social distancing around a shared water source, as is common in many high-density informal settlements and rural areas.

Sewage and wastewater management

Water supply and quality could pose dire challenges in the context of COVID-19, if reliable networks of water and sewage infrastructure are not secured nationally. An interim solution that can be implemented is greater awareness around only drinking properly treated water. While scientists indicate COVID-19 can be detected in sewage, it is important to note that it has not been found to be present in the final treated effluent.

The water supply in South Africa is still considered safe for drinking, provided the water is piped. In areas where piped water is not available and contamination may be a concern, it is suggested that guidelines for boiling, irradiating or filtering water are strictly followed. While risk of infection by COVID-19 from water supplies is currently considered to be low, the need for vastly improved wastewater management, increasing water quality outputs and strict measures for household grey water handling are essential.

Improving sewage and wastewater management includes securing the sanitation value chain, which ensures that people do not come into contact with the virus. Transmission barriers along the chain begin with containment of sewage and wastewater, including the collection and transportation where applicable, through to treatment and re-use or disposal.

The science on COVID-19 indicates that at present, the virus spreads from person to person via close contact (less than 2m). Disease transmission via sewage requires that three factors occur simultaneously. Professor Natasha Potgieter, who has a PhD in Medical Virology from University of Pretoria, explains that the virus must:

- Survive in human waste
- Retain its infectivity
- Come into contact with another person (usually via aerosols)

There have been no recorded cases of faecal-oral transmission of the virus to date in South Africa. International health experts stress that droplets and touching contaminated surfaces, followed by rubbing mouth, eyes or nose are considered the current transmission avenues. The necessity of preventing transmission through surface contamination is therefore vital. This includes hand washing or sanitising in addition to cleaning and disinfecting surfaces. It is important to use appropriate detergents, not items like hand sanitisers, for cleaning and sanitation of surfaces.

Lessons for the South African context

What does this mean for South Africa with numerous densely populated areas lacking piped water, or without adequate hand washing facilities? These areas are at increased risk of disease transmission. Reducing the risk of exposure requires increased sanitation measures. The wide scale prioritisation of water infrastructure networks needs to be a major national imperative going forward.

An immediate first step is behavioural change in terms of sanitation and hygiene. Awareness and education campaigns with repeat emphasis on adequate hand washing, social distancing and sneezing etiquette are being implemented by WHO internationally. The WRC is disseminating factsheets on WASH, translated into a variety of local languages, which are then distributed through their networks. In order to safeguard our communities, a vital first step is to eliminate incorrect information.

Technological solutions in the short-term include foot-pump hand washing stations in locations with no running water or where supply is provided via a communal tap. These are fitted with secure grey water tanks for safe disposal.

What the NBI is doing

- The NBI is playing an active role through our dedicated COVID-19 water emergency response, being implemented in partnership with BUSA, which focuses on providing adequate hand washing facilities for high density, informal settlements, commencing in the Gauteng Province.
- We will also be supporting member companies and the wider community through continuous updates, Thought Leadership pieces and Quick Briefs summarising best practice from across the business community.
- Finally, we will be releasing further details over the 21-day lockdown period on how our various social and environmental work streams will be addressing concerns about the country's economic and social resilience, both during and in the aftermath of this national emergency.

We know that as a country we have been through challenging times in the past; these experiences have also shown us that we have the ability and tenacity to tackle this crisis.

To find out about the important work the NBI is undertaking in the water and sanitation space, please contact Alex McNamara (Programme Manager: Climate & Water): AlexM@nbi.org.za

To join the NBI in helping to shape South Africa's future, please contact: Gillian Hutchings (Head: Communications & Membership): GillianH@nbi.org.za



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The National Business Initiative (NBI) is an independent and voluntary coalition of South African and multinational businesses launched in 1995 by the then President, Nelson Mandela

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