

Water as an instrument of economic, jobs recovery post Covid-19

By [Dhesigen Naidoo](#)

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South Africa, like most of the world, is in a deep depressive state. The economic contraction has been exacerbated by the Covid-19 pandemic. This is the atmosphere in which finance minister Tito Mboweni presented government's medium-term budget. Much of the reaction has concentrated on the austerity measures to react to the economic outlook and state expenditure management; the crux has to be the economy recovery trajectory - an important component being the development of water and sanitation in South Africa.



Dhesigen Naidoo, CEO of the Water Research Commission

We are not unique. Water has been in the top five risks to the global economy for nine consecutive years according to the World Economic Forum. Economists agree that the lack of water security negatively impacted GDP growth in many sectors as the structure of the South African economy continues to depend on water intensive industries. In addition, the 2019 report puts South Africa at tenth in Africa with respect to progress on the UN Sustainable Development Goals. StatsSA data indicates significant gaps in access to water and even larger deficits in access to improved and safe sanitation. Minister Lindiwe Sisulu, speaking at the launch of the SDG6 Global Acceleration Framework by UN secretary-general Antonio Guterres, pledged the country's recommitment to the programme of action.

A key challenge of course is finance and capacity. An important solution is to engage a new paradigm that recognises water as an instrument for economic growth. Countries like Singapore emulate the model that clearly works where Singaporeans, in spite of living in a country with a small market, have access to the best water management system, paid for by Singapore serving a global market.

Let us examine some of the key elements of an innovative strategy and roadmap to water facilitating a sustainable economic recovery for South Africa and the region.

Independent water producers

A new model for private sector participation to provide water of varying qualities depending on intended use – potable

quality for human consumption and personal use, while lower quality levels for many industrial and agricultural uses. This is an evolutionary model with utilities and public service providers as sole or primary purchasers. The designated sources of this 'new water' will be various sub-prime quality waters and wastewater. This includes acid mine-water (AMD), various brackish aquifers, saline waters inland and coastal waters. The modalities and lessons of the independent power producers are instructive.

New sanitation

South Africa already plays a leading role in developing technologies in this domain having been part of the development of ISO 30 500 for non-sewered sanitation. We lead in demonstrating NewSan solutions and the Water Research Commission's strong global partnership means that the country is poised for a local sanitation revolution and a global brown revolution as expressed in the DTI IPAP. They include a global market for NewSan technologies and services, beneficiation of the sanitation waste. This ranges from waste as fertilisers to high-end beneficiation to produce clean energy, liquid fuel, high value chemicals, protein products and lipids. New business models for toilet provision, products and services; re-usable water and nutrients; data and information provide new benefits across the economy and society.

By 2030, an additional 32 million people will require improved sanitation and basic hygiene services locally. The global market for "new sanitation" is estimated at \$8bn per annum, expected to grow exponentially into the future. This will lower the reliance on public purse and should integrates players including end users and private companies.



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One challenge is operations and maintenance. The WRC with partners, including the African Development Bank, has developed a ground-breaking model called social franchising. This is community-based entrepreneurship development with centralised support mechanisms. The core in the current pilots has been the provision of maintenance services for school sanitation services and management of waste. The positive externalities has been diversification of franchisee services into waste beneficiation. Sustainable community-based businesses with large employment potential has been realised and celebrated in the pilots.

Reticulation integrity programme

A reconceptualised 'War-on-Leaks' programme operating on three distinct levels:

1. Bulk level refurbishment as an industrialisation project,
2. Entrepreneurship development to sustainably manage local level projects at municipality level to bring down the now average 40% non-revenue water and +25% treated water lost to leaks. At current prices this is a R12-15bn loss each year and of course a loss of a quarter of all treated water to inefficient reticulation, and

3. A commissionaire model for private capital investment with public payment on revenue returns.

Intelligent water systems

The 4IR revolution in water management has proliferated globally. From smart meters to intelligent control systems and remote sensing, the future of water management is here already, expressing itself in many of the countries recognised as water leaders. This is an opportunity for South Africa to become the Water Silicon Valley of the Global South.

Precision agriculture for food security also can be built into the 4IR water revolution. Stimulus must also be linked to data-driven systems that provide aggregation services to smaller farmers (black emerging farmers), precision farming, smart water metering, aggregated science, market and trade advisory services, and innovative circular economy approaches to urban agriculture linked to impact metrics.

The right water strategy has the ability to put South Africa on an economic growth path, ensuring both business development and massive livelihood creation. Higher levels of water security removes important risks to direct investment and has important implications for food security. It needs a leap of confidence in South Africa's already exemplary record in water research and innovation within which lie the seeds to realise this potential growth. South Africa needs it and South Africans deserve it.

ABOUT THE AUTHOR

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