FLUID THOUGHTS

WRC CEO, Dhesigen Naidoo

Putting the spotlight on the human right to water

June is youth month in South Africa. It is when we remember the heroes and heroines who began a student protest on 16 June 1976 that fundamentally altered the global view of Apartheid South Africa.

It was a turning point that exposed the human rights abuses of the Apartheid ideology and the actions of an oppressive race-based state this, in turn, put in motion a series of events that eventually resulted in Nelson Mandela being inaugurated as the first President of the Democratic non-racial South Africa we know today.

It is, therefore, fitting that this new organisation, HumanRight2Water (HR2W), a global organisation that seeks to assist us to achieve the full suite of human rights as envisaged in the 2010 United Nations declaration, launched in June 2020, in the spirit of the class of 1976. On 28 July 2010, through resolution 64/292 the United Nations General Assembly recognised the human right to water and sanitation and acknowledged that clean water and sanitation are essential to the realisation of human rights. In 2015, this was followed by the adoption of Sustainable Development Goal number six where the Summit of World Leaders adopted among others, the target of universal access to clean water and safe sanitation, for every person on Earth, by 2030.

I have to point out that it is a privilege to be in the company of a very accomplished team of founder members who have incredible track records in this domain, now members of the Board and the Chair of the Committee of Experts. A special mention to the CEO, and fellow Founder member, Amanda Loeffen, largely responsible for the genesis of HR2W, and her wonderful, highly skilled team.

Covid-19 has fundamentally altered the world. It has become the unwelcome disruptor of the twenty-first century. In addition to the health, economic and social challenges associated with the pandemic, it has introduced both perspective and humility. It has returned us to basics in many ways. It has emphasised the primacy of basic needs and resources – water, and sanitation, being paramount among them.

Ironically, in this time of global and local lockdowns, and some of the most severe restrictions in modern times – we are seeing and appreciating the primacy of human rights and a human rights-based approach to recovery and development. We have, for the longest time, been functioning in a global water sector that is trying to solve the water challenges of the twenty-first century, still far too dependent on twentieth century technology and solutions, and, even worse, nineteenth century operating rules informed by outdated policy paradigms.

An innovative creative approach, strongly informed by the Bill of Rights Agenda, will enable us to successfully recover from this pandemic in a manner that affords us the chance to accelerate the global SDG project in line with UN Agenda 2023 and set course for a sustainable development paradigm for our future development trajectory.

We can and must put in our best efforts to register this Covid-19 moment in the future history books as a turning point of our global fortunes toward a better, more equitable, more sustainable world!

This was the opening address of Dhesigen Naidoo in his capacity as President of the global non-governmental organisation, HumanRight2Water, at its launch webinar with the theme 'Emergency responses linking Corona pandemics (COVID 19) and human rights to water and sanitation', which was held on 3 June 2020.

Arne Hoel/WorldBank

NEWS

South Africa joins the international fight for water rights

The launch of the Human Right 2 water, a global non-governmental organisation (NGO) could not have happened at a more opportune time.

As the world grapples with the impact of the Corona pandemic, the protection of the right to life and health have never been more important. The leadership team is Water Research Commission (WRC) CEO, Dhesigen Naidoo, as President, with former Waterlex Executive Director, Amanda Loeffen as CEO and Michel Jarraud, former Secretary-General of the World Meteorological Organisation (WMO), as chair of the Committee of Experts.

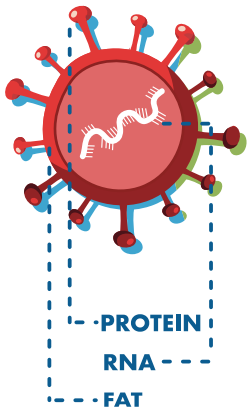
"The global Covid-19 pandemic has brought the world to a pause point forcing us to relook the fundamentals," noted Naidoo. "It has emphasised the criticality of water to deal with the immense challenge both in containment as well as treatment and recovery. There is a strong need for a human-centred strategy, the core of which has to be a human rights-based approach. This will afford an opportunity to enable this Covid-moment into a turnaround point toward a more sustainable and caring world, with heightened resilience to better deal with future shocks."

The UN Human Development Report estimates that the current rates of resource overuse and depletion together with increased levels of pollution will result in two thirds of the world's population likely to be living in water stressed areas. According to this UN Report the rate of increase of water is already leading to chronic water shortage in an increasing number of regions. South Africa had made great strides during the early years of democracy with this human rights-based approach to water access and water management led by Kader Asmal and his team. A revolutionary water law that sought to address unequal access through linking water issues to human rights, social justice, and environmental sustainability, the National Water Act of 1998 had been lauded globally.

"As we strive toward the SDG deadlines, in a time of an almost perfect storm of global crises with the Covid-19 pandemic riding alongside the economic downturn, an increasing climate emergency and a multilateral system that is under attack, a return to a basic value system represents an important building block on the road to recovery. HumanRight2Water is available as a knowledge partner to assist governments and regions to develop laws, policies and strategies to increase water security to fulfil basic needs while making water available for growth and development," said Naidoo.

Human Right 2 Water is an international NGO registered in Switzerland operating through a virtual structure, bringing together the skills of its membership and experts in water and sanitation governance and international human rights from around the globe. The NGO hopes that through the continued push for realising human rights in law, policy and practice, that they can help all people to realise a wide range of human rights, including the right to health, a healthy environment, food, and a life lived in dignity.

Information resources on water and Covid-19



The following Covid-19 and water related resources are available:

- Water Research Commission http://www.wrc.org.za/corona-virus/
- International Water Association https://iwa-network.org/news/information-resources-on-water-and-covid-19/
- Global Water Research Coalition http://www.globalwaterresearchcoalition.net/
- World Health Organisation https://www.who.int/water_sanitation_health/news-events/wash-and-covid-19/en/
- Water Supply and Sanitation Collaborative Council https://www.wsscc.org/2020/03/31/covid-19-transmission-and-sanitation-and-hygiene-services/

NEWS

Sector loses engineering stalwart

The water sector community was saddened to hear of the death of Prof Will Alexander, who passed away in June at the age of 95.

Prof Alexander's foray into engineering started during World War II when he served in North Africa and Italy as a member of the South African Engineering Corps. He resumed his studies after the war and graduated from the University of Witwatersrand in 1949. He joined the Department of Irrigation (now the Department of Water and Sanitation) in 1950 where he was employed for 34 years. For 19 of those years he was in the field of construction, working on such iconic dam construction projects such as Rooikrans Dam, Floriskraal Dam, Leeuw Gamka Dam, Erfenis Dam, the Gamtoos canals and the Orange Fish Tunnel. From 1970 to his retirement in 1984, Prof Alexander occupied the post of Chief of the Division of Hydrology and Manager or Scientific Services in the department. He was personally responsible for national water resource management and flood routing during regional droughts and floods. Close to 100 technical reports were printed by the government printer during this period. He also initiated the popular 'Hydro' courses for practitioners starting in 1975. From 1985 to 2000 he was a professor in the Department of Civil Engineering at the University from Pretoria where he supervised scores of undergraduate and post-graduate students.

In 2006, the South African Institution of Civil Engineering conferred an honorary fellowship on Prof Alexander. He made a remarkable impact on the South African engineering profession. Even after retiring as a professor emeritus he continued to undertake research on water, flood and climate issues.

- In 2014, Prof Will shared a personal account of his first two decades in the water sector. Readers can access the article here [https://bit.ly/2B9De5h]

SABS passes standard for reusable sanitary towels

Government has welcomed the announcement of washable reusable sanitary towel standard by the South African Bureau of Standards (SABS).

The SABS passed the first reusable sanitary standard: The manufacture of Washable, Reusable Sanitary Towels (SANS 1812) on 6 May 2020. The publication of this standard is one of the first standards for washable sanitary pads in Southern Africa and is leading the way for other African countries to follow.

Welcoming the announcement, the Department of Women, Youth and Persons with Disabilities (DWYPD) said the momentous act allows women and girls another safe option to manage their menstruation. "DWYPD offered support and guidance through the standards process because our position has always been one of pro-choice. Women and girls need safe choices for ways to manage their menstruation.

"Support offered by the department demonstrates the commitment the South African government has in meeting the diverse menstrual health needs of women and girls in South Africa through the department's Sanitary Dignity Implementation Framework," the department said.

With this new SABS standard, the department said, consumers can be confident that a washable reusable menstrual pad offers women and girls an option that is affordable and longer lasting than a single use pad.

Director of Social Empowerment and Participation in the department of Women, Sipiwo Matshoba, said the new standard puts South Africa on the map as a leader in the menstrual health and hygiene sector.

"This is an important and exciting milestone that we have reached in order to broaden product choice in line with the sanitary dignity implementation framework," Matshoba said.

Source: SAnews.gov.za

Alien plants significant threat to South African water security – ARC

Over the past 300 years or so, the intentional and accidental introduction of more than 400 alien, or non-native plant species, has gradually resulted in an infestation covering over 80 000 km^2 of the South African land mass as well as freshwater bodies.

This is according to the Agricultural Research Council (ARC) – Plant Health and Protection. The research council is undertaking a number of projects on the biological control of invasive alien plants (IAPs) in South Africa, funded by the Department of Forestry, Fisheries and Environment: Natural Resources Management Programme.

"IAPs have invaded water catchment systems, watercourses and wetlands and are the biggest long-term threat to the water security in South Africa. They have invaded agricultural lands, especially encroaching marginal lands used for stock grazing, consequently reducing the stock carrying capacity," the ARC said in a statement.

"Perhaps of more importance, is the fact that IAPs pose a huge threat to our indigenous environment by out-competing native species, transforming and destroying delicate ecosystems beyond recovery."

The great majority of IAPs are invaders of natural and semi-natural habitats, which pose a direct threat to our unique environment. These IAPs threaten the existence of native species through competition and displacement, hybridisation and the alteration of water, nutrient and fire regimes. For example, invasive Australian Acacias and Hakeas have invaded large areas of the unique Cape Floral Kingdom and pose a devastating threat to the last remaining areas of specific Fynbos ecotypes in the Western Cape. These invasive Australian tree species also enrich the soils with nitrogen, to the detriment of the local fynbos and Protea species that only thrive in poor quality soil conditions.

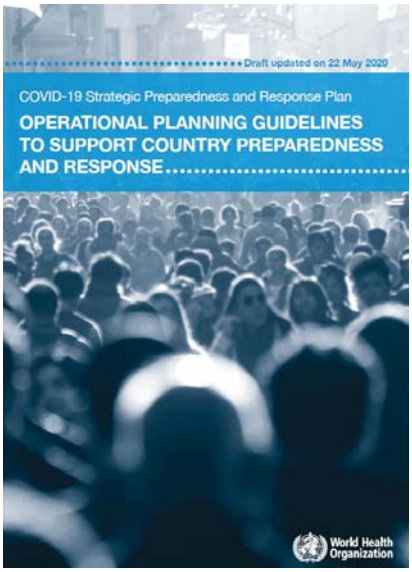
A large number of species of invasive floating and submerged water weeds have invaded our dams and riverine systems, causing havoc to the aquatic ecosystem function and biodiversity. These IAPs cause increased water losses through excessive evapotranspiration and completely change the nutrient recycling regime in the ecosystem. Numerous other IAPs clog rivers and stream banks, causing increased siltation and the collapse of the natural water flow, leading to excessive flooding event following rains.

"The infestations of many IAPs continue to spread and increase in density, which only intensifies our battle against the impacts of IAPs on our unique environment in South Africa," noted the ARC. "Climate change is also likely to intensify the negative impacts of IAPs on native biodiversity. Further investment and research in the biological control of IAPs can provide some hope for the development of cost-effective and environmentally sustainable management strategies to mitigate the threat to our environment caused by IAPs."

Source: ARC

GLOBAL

WHO publishes updated COVID-19 operational guidelines



The World Health Organisation (WHO) has published updated practical operational guidelines that may be used by national authorities to develop and update their Covid-19 national plans across the major pillars of Covid-19 preparedness and response.

The updated document identifies water and sanitation service providers as performing critical functions that must continue during a widespread outbreak of COVID 19, and specifically calls for water utilities and small-scale providers to provide sufficient safe water to allow for infection prevention and control measures in healthcare facilities, hand hygiene in homes, public and collective settings.

The guidelines call for ensuring that hand hygiene stations are available, supplied and functioning at all gathering places in Covid-19 affected areas, high-risk areas and humanitarian settings.

- To download the guidelines click here [https://www.who.int/publications-detail/draft-operational-planning-guidance-for-un-country-teams]

Inland fisheries integral to achieving SDGs

Exploring the relationship between well-managed inland fisheries and global sustainability, a paper published in June in ***Nature Sustainability*** concludes that inland fisheries can contribute substantially to increased food security, poverty alleviation, livelihoods, human well-being and ecosystem function.

The new study, ***Inland Fish and Fisheries integral to achieving the Sustainable Development Goals***, looks closely at how integrating inland fishery services into development programmes and policy decisions would support progress towards the UN Sustainable Development Goals (SDGs). The analysis shows that ecosystem benefits associated with inland fisheries make a substantial contribution towards achieving the goals towards No Poverty (SDG 1), Zero Hunger (SDG 2), Clean Water and Sanitation (SDG 6), Responsible Consumption and Production (SDG 12), and Life on Land (SDG 15).

"Despite the importance of inland fisheries, they tend to be overlooked during water usage and policy decisions. Human demands on freshwater, such as hydropower, industry, agriculture, and domestic requirements, largely take precedence over fish, fisheries, and the habitats that support them," said co-author Julie Claussen, Director of Operations at the Fisheries Conservation Foundation. "Freshwater is a basic human need and water security issues are imperative, yet a failure to recognise the role that inland fisheries play for many communities weakens the ability to achieve sustainability goals."

Freshwater fishes are a vital contribution to biodiversity, and the fisheries for many of these species provide an essential source of food and livelihoods for people around the world. More than 40% of known fish species are found in freshwater, even though freshwater habitat covers less than 1% of the globe. Yet like other freshwater species, freshwater fishes are highly threatened.

The IUCN Red List of Threatened Species shows that around one in three freshwater species of vertebrates, invertebrates and plants are threatened with extinction.

"Nearly a billion people, particularly in developing parts of the world, are estimated to depend on inland fisheries as a source of food and nutrition," said Ian Harrison, co-author and Co-Chair of the Freshwater Conservation Committee of IUCN's Species Survival Commission, referring to a 2016 study. "Proper sustainable management of inland fisheries is closely linked with protecting aquatic ecosystems, their biodiversity, and the various important services they provide to people," he continued. There is also a strong correlation between stable, high-yield fisheries and high fish species richness, according to another 2016 study by IUCN.

New website creates central space to view online web courses

The Covid-19 pandemic has put a pause on seminars hosted physically on university campuses. But in mid-March, a small team of MIT mathematicians began to notice that institutions around the world were finding ways to continue hosting seminars, online.

To virtually attend these talks, however, required hearing about them through word of mouth or digging through the webpages of individual departments or organisers. Enter researchseminars.org, a website the MIT team formally launched in June, that serves as a sort of crowdsourced Ticketmaster for science talks. Instead of featuring upcoming shows and concerts, the new site lists more than 1 000 free, upcoming seminars hosted online by more than 115 institutions around the world.

"We've had a lot of feedback from users who say, 'thank you so much for building this, I feel like part of a community again,'" says Drew Sutherland, principal research scientist in MIT's Department of Mathematics.

The site is designed so that any verified organiser can add their own seminar listing. In this way, the team hopes the site can serve as a centralised, crowdsourced portal to the latest scientific advances being presented anywhere in the world. Users can filter seminars by topic, then click on a listing for details on how to virtually attend. After entering a password — or in more discerning cases, solving a math puzzle — they can sit in on live talks they might have been unable to attend in person. In the first few weeks the site had drawn about half a million pageviews, from visitors in 160 countries.

If reactions on Twitter are any indication, the site has been a bright source of connection for academics who've been isolated from their campuses, and from each other, for weeks and months since the pandemic's start.

For instance, Jordan Ellenberg, a math professor at the University of Wisconsin at Madison, tweeted that the new site "is like the departure board at O'Hare if you could just get on any flight you wanted and they were all free."

While the site initially focused on mathematics courses, the team has since added more topics to the website, including seminars in physics, biology, and computer science in response from scientists in other subject fields. They're also working out ways to host social platforms on the site, such as chat rooms that run in parallel with scheduled talks. Visit www.researchseminars.org

Build back better and preserve biodiversity after Covid-19 pandemic – UN Chief

Recovery from the Covid-19 pandemic must also lead to countries uniting to preserve the natural world, in line with global commitments to achieve a better future for all people and the planet.

This is according to top officials at the United Nations, who were speaking during the observance of the International Day for Biological Diversity on 22 May.

In a video message for the day, UN Secretary-General António Guterres focused on the symbiotic relationship between humans and all other life on Earth, stressing that preserving and sustainably managing biodiversity is necessary for mitigating climate disruption, guaranteeing water and food access, and even preventing pandemics.

"Covid-19 (which emanated from the wild) has shown how human health is intimately connected with our relationship to the natural world. As we encroach on nature and deplete vital habitats, increasing numbers of species are at risk. That includes humanity and the future we want", he said.

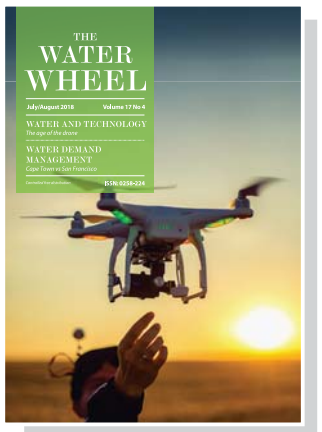
"As we seek to build back better from the current crisis, let us work together to preserve biodiversity so we can achieve our Sustainable Development Goals. That is how we will protect health and well-being for generations to come."
With the pandemic as a backdrop, the International Day for Biological Diversity is being commemorated under the theme 'Our solutions are in nature'.

For the UN General Assembly president, the Covid-19 pandemic has amplified "the fragility of our way of life, our health systems and our global economy", thus heightening inequalities and threatening the world's most vulnerable communities.

Tijjani Muhammad-Bande insisted that these issues are interconnected. He said hunger was already on the rise before the crisis, with more than 820 million worldwide not getting enough to eat. Food security was also being undercut by biodiversity loss, desertification and climate-related shocks, while one million animal and plant species are facing extinction.

THE WATER WHEEL

SUBSCRIPTION



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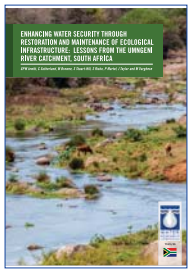
NEW WRC REPORTS

Framework towards water-sensitive spatial planning and land use management

Everything society does, from its economy to its culture, depends – in part – on safe, stable access to water resources. Water sensitivity has gained global awareness as the risks associated with climate change, increasing resource demands due to population growth, and environmental degradation due to rapid urbanisation continue to escalate at an alarming rate. In 2011, the Water Research Commission (WRC) commenced with water sensitive-related research activities by soliciting research proposals aimed at guiding urban water management decision makers on the use of water-sensitive urban design (WSUD) within the South African context. The resultant framework states that water-sensitive settlements comprise three components: water-sensitive urban design, water-sensitive urban planning and water-sensitive urban management. In 2016, the WRC embarked on a new research project to bring WSUD into an even larger municipal planning environment. To achieve water sensitivity within the broader municipal planning environment, this project adopted new-term water-sensitive spatial planning (WSSP), which replaces water-sensitive urban planning (WSUP) as it relates to the entire municipal area (built up and natural environments), instead of just the urban environment.

WRC Report no. TT 809/1/20 and TT 809/2/20 (Guideline)



Enhancing water security through restoration and maintenance of ecological infrastructure: Lessons from the Umngeni River Catchment, South Africa

The uMngeni River Basin supports over six million people, providing water to South Africa's third-largest regional economy, contributing approximately 11%, or about R460 billion, to national GDP. The critical question facing the catchment is how to sustain and enhance water security in the catchment. The role of ecological infrastructure (EI) in enhancing and sustaining water and sanitation delivery in the catchment has been recognised. The overall aim of this project was to identify where and how investment into the protection and/or restoration of EI can be made to produce long-term and sustainable returns in terms of water security assurance. In short, the project aimed to guide catchment managers when deciding 'what to do' in the catchment to secure a more sustainable water supply, and where it should be done.

WRC Report no. TT 815/20

Water use and yield of soybean and grain sorghum for biofuel production

A significant expansion of agricultural production is required to meet the demands for feedstock required by biofuel manufacturers. South Africa is a water-scarce country. Thus, the greatest challenge facing the biofuel industry will be to increase crop production using less water (i.e. improve crop water use efficiency). The research focus of this project was guided by recommendations made in the previous biofuel project (**Project K5/5221**), as well as by policy related to biofuel production in South Africa. The project aimed to meet the demand for knowledge regarding the expected water use and yield of soybean and grain sorghum produced by rural farming communities, as well as to determine best agronomic practices for maximising attainable yield. To assist the government and, in particular, agricultural extension services, information on which cultivars are best suited for biofuel production in particular areas, as well as advice on how to manage fertility, weeds and pests/diseases, was also considered.

WRC Report no. 2491/1/20

Trace study of water PhDs in South Africa

This document reports the employment findings of a tracer investigation of water and sanitation-related Doctoral degrees awarded during the period 2013-2017 from South African universities. This is the first investigation of this nature in the fields of water and sanitation in South Africa and probably internationally. Tracer surveys – also known as graduate destination surveys or alumni surveys – are undertaken internationally informing policy authorities of the characteristics and opinions of PhD graduates. The objectives of the investigation were as follows:

- Do we train too many or too few water-related PhDs?
- How mobile are doctorate-holders between sectors?
- When do doctorate-holders leave research for a career in management?
- Are water-related PhDs remaining in the country?
- Can we trace the work experience of water-related PhDs?

Furthermore, the findings of the investigation can express an opinion related to the appropriateness of current targets in the Research, Development and Innovation Water Roadmap (2015).

WRC Report no. 2851/1/20

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