



R:Ed
magazine

**Booming Thirst:
*The Politics of Water***

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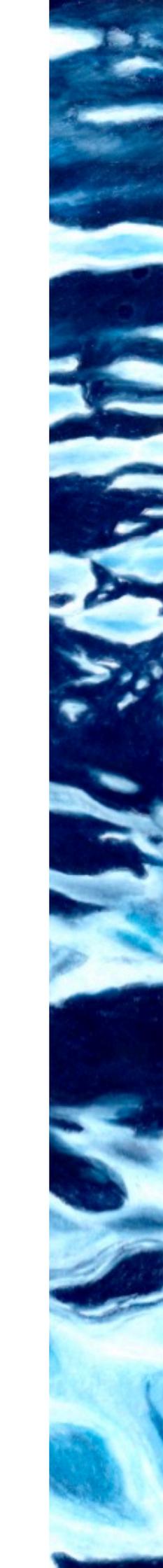
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The Politics of Water in a Drought-Stricken African Continent

The 'Day Zero' crisis in Cape Town, South Africa. The rise of the Boko Haram in Nigeria. The threat of sabotage against the Grand Ethiopian Renaissance Dam in Ethiopia. The common factor in all of these crises is the potential for water to act as a trigger for conflict, desperation and deepening political divide. Water as a resource has always represented a critical challenge for many parts of the African continent, and with the effects of climate change, it currently represents a challenge for African governments.

The 'Day Zero' crisis in Cape Town exposed a growing rift between the African National Congress (ANC) and the Capetonian opposition party, the Democratic Alliance (DA). After years of a drought intensified by the effects of climate change, it was believed that Cape Town's dams would become so depleted that it would force local authorities to turn off the taps. From the beginning of the crisis, the political divisions were clear. The ANC is responsible for providing water to all citizens, but the infrastructure and services falls upon the DA to manage. The crisis prompted bitter campaigns on the inefficiencies of the two parties, while residents of Cape Town were increasingly asked to cut down on their water use. As one of the wealthiest nations on the African continent, South Africa is in a unique position to improve its own infrastructure to cut down on water usage. For example, measures have already been taken to cut down on water wastage in the pipe system; worldwide, on average, leaky pipes account for around thirty percent of a city's lost water. Politically, 'Day Zero' exposed the division between politics in Cape Town and the rest of South Africa. It may well be that the future of Cape Town depends on their cooperation.

Lake Chad has shrunk by 90% since the 1960s due to climate change, a population boom and unplanned agriculture. It acts as a water source for around 25 million people in Niger, Cameroon, Nigeria and Chad. The rise and continued survival of the terrorist organisation, Boko Haram, has been linked to an increasing sense of desperation among young men in the area who are unable to find work or support their families. Groups in the area rely upon the river for irrigation, fishing and their drinking supply. A recent United Nations report stated that over 10 million people in the Lake Chad basin require humanitarian relief to survive. One of the suggested solutions to the drought is the Transaqua - a 2,400 kilometre canal that would transfer water from the Congo river all the way to the Chari River basin, leading into Lake Chad. Costs and the environmental impact of this project remain a huge concern; until these issues can be addressed, the challenges facing the communities around Lake Chad will continue.

In 2013, a private meeting where Egyptian politicians were discussing sabotaging the Grand Ethiopian Renaissance Dam was broadcast to the world. The dam has the potential to produce more than double of Ethiopia's current electrical output and contribute to Sudan's electric grid as well. Despite the clear benefit to its neighbours, Egypt is concerned that the dam will affect the productivity of its own Aswan Dam and their water supply. The Nile river itself provides nearly all of Egypt's water supply. While politicians further the ongoing disagreement, little is being done about leaky pipes, outdated irrigation practices and the booming populations in the nations that surround the Nile river. In the future, the region should look to adopting a more egalitarian (based on the principle that all people deserve equal opportunities) view towards sharing the river. Currently, Egypt claims two-thirds of the river's flow based on a treaty it signed with Sudan in 1959, and another treaty gives it a veto vote over upstream projects. Lastly, the implementation of sustainable agricultural practices would lessen the strain the region's growing population places on water usage.

Climate change will fundamentally change the nature of our environment, and severely limit the access to water that billions rely on. While many nations are quick to adopt technical solutions, the high cost of these options are not available to every African nation. In instances where political divide between peoples and between countries is spurred on by the lack of water, the issue grows beyond its initial effects and is felt by everyone in the community. If steps are not taken to combat the threat of climate change, conflict is inevitable; all you have to do is remove water.

Claire Gerrand

Cape Town's Water Crisis; what should happen now?

For what seemed like months, Cape Town was on the brink of crisis with 'Day Zero' (the severe water shortage in the Western Cape region). Yet all of a sudden, this crisis seemed to disappear. 'Day Zero' has been pushed back far enough that as of yet, it no longer has a definite date. We only know that it may still happen in 2019. It must be noted that the prospect of crisis cannot totally be dismissed, and more action must be taken to prevent this.

Although the actions during the 'Day Zero' campaign reduced the impacts of the water shortage, it has done little to permanently deal with the crisis. We shall review the causes and the response, and offer long-term solutions to the water shortage.

The causes

The causes of the water shortage are up for debate, and it is clear that several factors are at play. Firstly, the city experienced a large drought; described as a 'once in 300 years' event. Experts such as Dr Piotr Wolski from UCT's Climate System Analysis Group have suggested that the lack of rainfall from 2015 and 2017 was particularly severe and rare. This extreme drought contributed largely to the water crisis by severely limiting water supply.

Cape Town has experienced a large population growth that its water storage has failed to keep up with. From 1995 to 2018 Cape Town's population increased by 79%, from 2.4 million to 4.3 million. Yet during this time storage only rose by 15%, and only one dam serving the city was built. This means that demand for water increased faster than supply. This, combined with the severe drought, can explain how Cape Town no longer had a sufficient amount of water to deal with the level of water consumption.

Issues with infrastructure

Why the infrastructure was inadequate is debated. Many blame political disputes between local and national governments, which delayed an effective response to the crisis. Other explanations suggest that a lack of long-term policy-making is responsible. Whether the infrastructure is actually inadequate is also debated. Rashid Khan, Cape Town's regional head of the South African Water Department has stated 'we have six dams. It's enough. It's about how [we] manage the water in the dams'. Much of the water stored by dams was provided to farmers at subsidised prices. What makes this allocation inefficient is that agriculture only constitutes 4% of the Western Cape's economy.



Cape Town's management of the crisis

So how exactly did Cape Town escape this potential crisis? In short, the local government relied on encouraging its population to decrease their water consumption. Water use was restricted to 50 litres per person per day, with those going over facing fines or their supply being completely cut off. Some of the many ways that people cut back on water consumption was through reusing shower water, and limiting toilet flushes to once a day. As a result water use dropped from around 600 million litres per day to 507 million by April 2018. This is still short of the city's 450 million litres target. The city also publicly shamed water offenders, with the city's previous mayor paying offenders a personal visit to their homes.

The real solutions

However, it only lessened the impacts of an underlying issue. The problems that led to the water crisis are yet to be properly addressed. There are several ways this could be done.

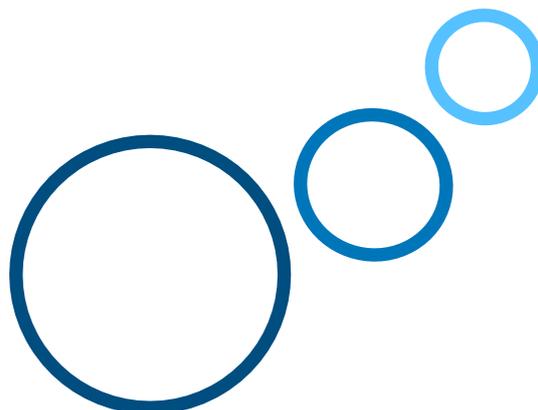
Firstly, government subsidies of water purchases by farmers need to end. Although this may have significant negative effects on the agricultural sector, the water savings may outweigh the negative economic outcomes of such an action. Rather, there should be an encouragement of innovative and new methods of creating a more efficient irrigation. Subsidies that had previously been used to drive down water prices for farmers could instead be shifted into subsidising the research and development of such programs.

Secondly, there should be investment in infrastructure that would expand capacity beyond its current levels. Desalination plants (used to purify salt water) could be built and new wells could be dug to tap into a supply of groundwater. If the government is reluctant to invest public funds in these projects, they should incentivise private companies to invest in them. The government could provide tax-breaks for these companies, or perhaps allow them to charge higher prices for the water they retrieve.

Placing tariffs for water usage over a certain amount is another option. This would help to limit excessive demand for water, such as the use of swimming pools. The money raised from these tariffs could even be used to fund the previous suggestions. However this policy could disproportionately harm poorer sections of the population. Therefore, this demand should perhaps be focused on private corporations rather than individuals.

No single policy is likely to properly solve the core issues at the heart of this potential crisis. It is likely that a combination of these three is required. What has at least become clear in the wake of this potential crisis is the strength of the people of Cape Town, and I am confident that the remedy will be found.

Alex Emary

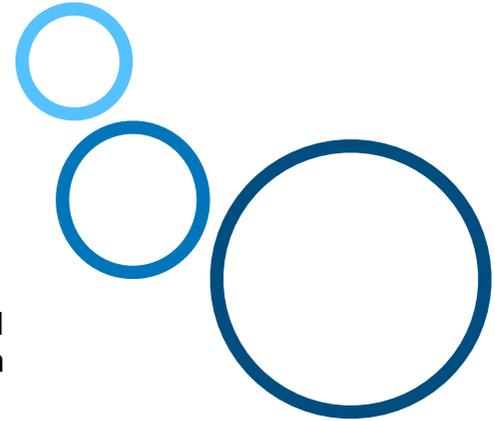


Cholera and Water

Cholera is a disease that causes extremely watery and severe diarrhoea. This leads to the infected individual becoming dehydrated very quickly. Complications of the disease are a result of this water loss and include kidney failure and fluid in the lungs. Both children and adults can be infected by the disease. About half of all cholera deaths are thought to occur in those that are younger than five years old.

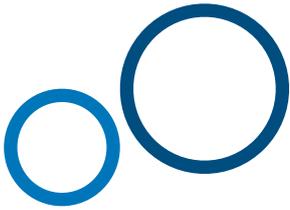
Cholera's origins have been traced to the Ganges delta in 19th century India. From this location, it has spread rapidly and globally and has become endemic to many nations of Africa. It has been estimated that there are at least 1.3 million cases of cholera globally, leading to at least 21,000 deaths worldwide.

In 2016, chronic cases of cholera were reported to the World Health Organisation (WHO) by 17 different African nations. Of these 17 countries, three in particular made up more than three quarters of all cases, these countries were the Democratic Republic of the Congo, Somalia and the United Republic of Tanzania. Kenya, South Sudan and Malawi also reported high disease burdens, with all reporting more than 1,000 cases of cholera in 2016.



What causes Cholera?

Cholera is caused by the bacteria *Vibrio cholerae*. This bacteria enters the body when contaminated food or water is ingested and once inside the body, it penetrates and colonises the lining of the gut. From here, the bacteria releases a toxin that causes the release of salts and water from the gut. The results are extremely watery diarrhoea.

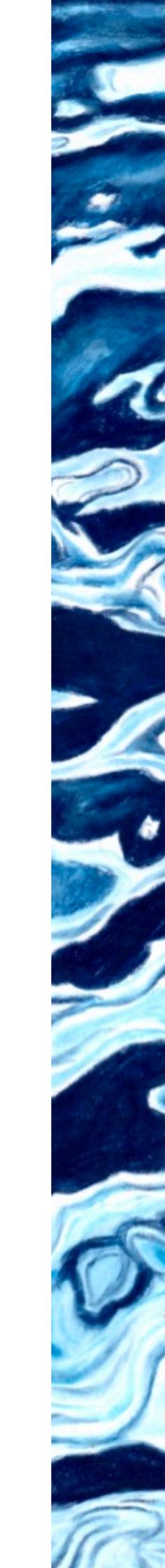


A recent epidemic: Cholera in the DRC

The Democratic Republic of the Congo (DRC) has experienced cholera since the 1970s, with levels of the disease being the highest in the east of the country and around the great lakes. In 2018, the country faced its most significant outbreak in 20 years, with multiple spikes from the normal endemic levels. Whilst nine of the 29 provinces of the DRC are said to have endemic cholera, in 2017 55,000 people were recorded to have fallen ill in 24 of the country's provinces. By the end of 2017, the outbreak had hit the capital Kinshasa, where one of six members of the Congolese population lives.

In order to try and contain the outbreak, the humanitarian medical NGO, Doctors Without Borders, installed two cholera treatment units in high-risk areas of the DRC. At these two units, 24/7 care is available. In addition to this, rehydration points, ambulances and education services are available throughout affected areas.

Individuals in Kinshasa face stigma surrounding cholera infection, which is counter-productive in slowing down the epidemic. With the illness considered shameful, those affected often do not receive the necessary community care and support. In addition to this, a study in 2013 found that those who had negative ideas surrounding cholera were less likely to take available vaccines. It is necessary that communities work together to support those with cholera.



Treatment and prevention of cholera: Why sanitation is key

Due to cholera being an illness of dehydration, the first method of treatment is centred on re-hydrating infected individuals. Oral rehydration solutions help to replace lost salts and therefore increase water retention. In severe cases patients may even need to receive hydration intravenously. During epidemics of cholera, antibiotics are advised for extremely ill cholera patients. Whilst these may offer short-term benefits, the effectiveness of antibiotics is limited in endemic areas, as the bacteria frequently develop resistance to them.

As rehydration simply tackles the symptoms of the disease and not the cause, it must be continued throughout infection until the body's immune system has fought off the bacteria. Furthermore, it does not stop the spread of further bacteria. This means that medical efforts can only go so far. In order to stop spread, improved sanitation and water cleanliness is an absolute must.

Cholera vaccines offer a solution that can be used more immediately. The use of vaccines can prevent the spread of cholera to neighbouring areas, and stop an outbreak from turning into an epidemic. These vaccines are generally effective, however their availability is limited. As such, it is crucial that these are not used as a solution in the shorter-term, as the foundation of cholera prevention requires improvements in sanitation and access to clean water.

Kanengo Diallo

Why Access to Clean Water is a Gender Equality Issue

Men, women and children alike need drinking water to survive. Men, women and children are all vulnerable to diseases carried in dirty water, such as cholera, diarrhoea and typhoid. Why, then, should we consider improving access to clean water to be a gender equality issue?

Most obviously, we must see improved access to water as a gender equality issue because it is disproportionately women who travel to collect the water. A 2016 study examined water collection in 24 Sub-Saharan African countries, and found that women and girls collected more water than men and boys in all of them. This is a consequence of gender inequality: because women's time is viewed as less valuable than men's, they are given a task that requires no thought, but only time and manual labour.

Even as water collection is a consequence of gender inequality, it is also a cause of it. Picture a woman: a mother of four, who is forced to spend an hour every day travelling to collect clean water for her family. Doing this will make it more difficult for her to hold down a job, especially if the times when water will be available are unpredictable. It will also give her less time to care for her children, including during the crucial first years of their life, when interaction with adults is key to their development. But she has no choice. Her husband says he must work, and she does not want her children to have to take time out of school. Shockingly, this woman would be one of the luckier ones. In Sub-Saharan Africa, the average trip to collect water takes 33 minutes each way, making an hour's round trip unusually short. So long as women face this additional burden, they will never achieve a level playing field with men.

Yet loss of time for work and childcare is not the only consequence of a lack of access to clean water. The weight of large jerry cans of water can cause damage to muscles and the skeleton, soft tissue damage and early arthritis. Indeed, since the weight that it is safe to carry is related to body weight, women tend to be more vulnerable to these ailments than men.

Perhaps the most shocking illustration of this gender inequality, however, is the effect of a lack of access to clean water on women giving birth. A UN and Unilever joint report found that one in five deaths of newborns in Sub-Saharan Africa are due to being washed in dirty water, in environments with no sanitation or hygiene. This poor hygiene and sanitation can also put their mothers' lives at risk.

With all this said, on account of their being the worst affected by the problem of lack of access to clean water, women are also particularly well placed to try to find solutions. For instance, in Nigeria, a pilot project has attempted to provide water in Okpoga and Sankera through social enterprise. Two water centres selling clean water at the same price it cost them to buy it — in addition to the normal food and household products — it was women who ran the centres.

Access to clean water will not end gender inequality. However, it will help to empower women to give women more of the time, opportunities and good health they need to realise their potential.

Juliet Dowley

Community water management: a cultural ideal?

By 2050, Africa's rural population is expected to have increased by 47%. This is a higher rate of growth than in any other region. As the international community's attention is drawn towards the looming global water crisis, and therefore to the sustainability of rural water supplies, local communities have become the focus of the debate around whether the solution to water security lies in a bottom-up or a top-down approach.

Community water management means handing over control of water services to the local community. This practice has become widespread in rural sub-Saharan Africa. Governments often favour this distribution of responsibility to local communities in order to reduce pressure on stretched resources and government officials. This community-reliant approach has enjoyed widespread popularity and even become fashionable among (largely western) donors and NGOs. Yet, research has shown that community water management is the least preferred method by the communities themselves.

Why has community water management become the prevalent model in sub-Saharan Africa?

Community water management first emerged as a policy model (meaning an approach followed by governments and other organisations to achieve certain goals) in the 1980s - the first UN Water Decade - in response to growing disappointment with 'top-down' approaches to development where decisions are taken at the highest level. This led to a drive towards public participation and decision-making at the local level. It has since then gained acceptance among the international development community as the 'obvious' solution to clean and safe rural water services.

Practitioners and academics alike predicted that community management models would avoid any problems caused by corruption and limited government capacity. According to theory, communities would naturally be more invested in the proper management of their water services.

Is community water management the fix-all solution it is presented to be?

The transfer of ownership and responsibility of rural water services to the local community is often thought of as a harmless and politically neutral policy. However, this style of governance is what is called neoliberal, meaning a political ideology that favours free market trade and reduced state involvement. Community water management is believed to hand back control to the community by allowing it to decide its own development. Sadly, the belief that a community-managed approach would easily secure the sustainable supply of clean, safe and reliable water in rural parts of sub-Saharan Africa by going 'above' - or below - politics has in many cases proven to be ill-founded.

1 in 3 community-operated hand pumps have been found to be faulty and/ or out of use at any given time. Shifting the responsibility for the management of such an essential resource places a heavy burden on the community. Maintaining a hand pump requires funds for spare parts and reliable access to a mechanic or technical training for community members. There is an expectation that local 'water point committees' will effortlessly manage the upkeep of these water points. And yet, little thought is given to the individual or the socio-economic environment in which each community exists and there is little day-to-day support from institutions.

A cultural ideal?

Community water management can only be an achievable option with the necessary institutional support. What is needed is realism, not idealism. African communities need to be imagined in terms of their wants and needs along the same criteria as any other society. All too often, African societies are described as the universal 'Other'; images of Africa seem to alternate between disastrous representations of inter-ethnic conflict and famine on the one hand and romanticised visions of simple villages living in peaceful harmony with nature on the other.

Despite good intentions, the position of community water management as the favoured model of 'giving' for the international community reflects the broader cultural idealisation of sub-Saharan Africa as a blank canvas for progressive development projects. Community water management enables donors to highlight the need for community participation and sustainability without the longer-term responsibility of managing it.

There is a difference between 'community management' and community participation.

Community management and community engagement are terms that are regularly used as one and the same. Yet, in practice, the two can have conflicting meanings. As a result of passing on responsibilities usually held by regional or national bodies to the rural community, vulnerable groups can often find themselves cut-off and without the support that they need.

Community participation does not mean the absence of external support but communities and authorities working together. Community leaders have local knowledge and have the right motivations and water service organisations have the technical knowledge and skills to maintain systems. In order for community water management to work, there needs to be a clear separation between community management and community participation in the collective imagination of both governments and the international development community.

Selin Millward

Could the privatisation of the water industry bring about the realisation of the right to water in Sub-Saharan Africa?

The right to water

The right to water is an issue that has been frequently discussed and has traditionally been hard to define. The United Nations' (UN) definition specifies that the right to water is the right everyone has to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. In 2010, the United Nations General Assembly recognised the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights. It called upon states and international organisations to provide financial resources to assist countries, particularly developing ones, to supplying safe, clean, accessible and affordable drinking water and sanitation for all.

The barriers preventing the right to water

However, international organisations recognise that many countries may face financial or legislative barriers in fulfilling new human rights laws, and the right to water is no exception. For example, the accomplishment of the right to water is slowed down by a lack of infrastructure, which means that unlike other human rights, there are certain areas where the right to water cannot be implemented due to a lack of resources such as piping and treatment plants. There has been substantial action taken towards improving this situation, such as the expansion of the Lower Usuma Dam Water Treatment Plant (LUDWTP), which is located in Abuja, the capital city of Nigeria. This expansion allowed the plant to process more water to account for the territory's growing population, ensuring that the future physical access to clean water is secured.

Could privatisation increase the slow rate of change?

Yet, while this progress is encouraging, the rate of change is not fast enough to provide those without water with the services they need to guarantee this fundamental human right. For instance, the LUDWTP is managed by the 'Federal Capital Territory Water Board' which is a government agency. Arguably, the privatisation (the movement of a business, industry, or service from public to private ownership) of the industry would encourage a faster rate of development as the private sector could make the necessary investments to secure the vital infrastructure. Furthermore, competition from various private organisations for dominance in the industry could push the prices down, enabling widespread and affordable access to clean water.

Competition could drive prices up

This has been met with much contention, especially from NGOs, who argue that human rights should not have a price on them. Human rights should be accessible to everyone, and the privatisation of the water industry may mean that prices are driven upwards to maximise profit, preventing many people from being able to afford this important resource. However, governments would still be in a position to regulate the private organisations providing the services, and could set a maximum price of water per unit volume in order to enable all members of a society to access the water. Furthermore, Catarina de Albuquerque, former UN special rapporteur, claims that water can have a price as long as people are not excluded. This reflects other human rights; there is a right to food, for example, but people will still have to purchase their food. The same goes for health: it's a recognised human right, but in many cases, medicines still come at a price.



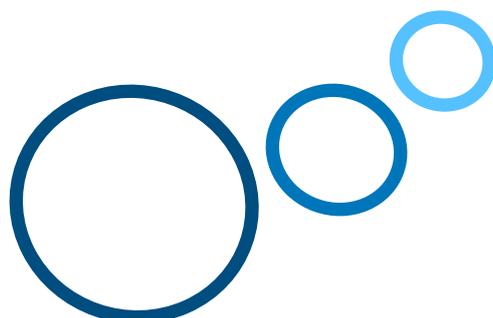
It has also been suggested that private companies have no motivation to provide water to poor and rural communities, which conflicts with the UN's requirement that 'safe and clean drinking water and sanitation' should be physically accessible and affordable. However, even if the privatisation of the water industry only presented itself in particularly populous areas of countries, it would still leave governments with the ability to direct their infrastructural resources to rural communities, providing everybody with physical access to clean water.

How privatisation could affect vulnerable populations

As is common with human rights violations, it is the most vulnerable demographics in a society who are most at risk of having their human rights denied. Notably, a recent report by the charity Water-Aid cited that an estimated 344 million children in sub-Saharan Africa lack a toilet at home, leaving them vulnerable to diarrhoea and other water-borne infections. Thus, it is critical that if the water industry becomes privatised, these groups should not be excluded from receiving benefits. The privatisation of the water industry could provide the critical developments necessary to allow every individual access to affordable, clean, safe water, and therefore should be seriously considered to help the global achievement of the right to water.

There are both benefits and drawbacks to the privatisation of the water industry in sub-Saharan Africa. The realisation of the right to water is crucial, and the regulated privatisation of the industry could provide the necessary investment for the vital infrastructure needed to accomplish wide-spread access to water.

Cassandra Somers-Joce



Plastic in the Ocean: Fears and Hopes for the Future

We currently dump more than eight million tonnes of plastic into the ocean per year. If this rate of pollution continues, 2050 will see more plastic in the sea than fish. If we weighed all that plastic, it would be approximately equivalent to the weight of the whole population of South Africa and Kenya combined. One million marine animals per year die as a result of the sixty tonnes of plastic which pumped into the ocean every minute.

A 2017 study by the Environmental Science and Technology journal found that up to 95% of plastic in the ocean originates from just ten rivers. Eight are in Asia; the other two are the Nile and the Niger. As Mohamed Atani, the regional information officer for the United Nations Environment Programme, says, 'Waste management in general is a very big problem in Africa.'

Both Africa and Asia are now taking a different approach. Africa is leading the way in the world when it comes to initiatives mobilised by the campaign 'Beat Plastic Pollution', which encourages both civilians and governments to take action. Kenya, Rwanda and Morocco have banned plastic bags; Zimbabwe has banned styrofoam, and South Africa is actively encouraging reusable bags for shopping. More impressive than state programs, though, are those individuals who have responded to the ocean waste crisis with their own initiatives.

One man is paving the way in Ghana, figuratively and literally. By using the plastic polymers to develop a substance called asphalt, he uses it to build roads, that have the additional benefit of being cheaper and more resilient. Kenyan organisations like Ocean Sole have reused over 400,000 of the flip flops found in the ocean to create sculptural art, and activists have created a fully functioning boat named 'the Flipflop', using melted and recycled wasted plastic.

As the Acting Executive Director of the UN Environment, Joyce Msuya, said in 2019, 'the Flipflop is living proof that we can live differently. It is a reminder of the urgent need for us to rethink the way we manufacture, use and manage single-use plastic'. While this is undoubtedly true, and these initiatives are certainly encouraging, one can't help acknowledging an upsetting sense of futility when realising that this is our response to huge ocean islands of plastic that are growing up to the size of Sudan.

Indeed, a pertinent aspect of this topic is the question of state intervention versus civilian action: which is more effective? While individuals can have an impact on the pollution levels of the ocean, it could also be said that it is up to governments to implement changes in policy to make change on a more obviously mass scale.

In the first place, consumer waste is nothing compared to the damage inflicted by the fishing industry. 46% of all ocean plastic is fishing nets, named 'ghost nets', which are responsible for killing countless whales, sharks and other marine life. Real change would be coercive state control over the fishing industry to limit their capacity to dump their gear into the oceans when they no longer need it.

Finally, some have turned to the environmental 'Kuznets Curve' for explanation and comfort. The curve suggests that, as a country's economy grows and develops through industrialisation and mechanisation, the environment will initially suffer but after it has reached a certain average income it reinvests into the environment and its relationship with its ecosystem will be restored. As African economies are growing so rapidly, it is hopeful that reinvestment at a societal level will achieve more than the relatively small-scale initiatives around Africa right now.

Initiatives across Africa, then, are invaluable both to the physical waste reduction, but also in contributing to general attitudes towards plastic, and the necessary panic about the present statistics and observations. Although it is essential to acknowledge and hold accountable big polluters like China and India, and, more than anything else, the fishing industry, this should not detract from the efforts across the world and across Africa to avoid the path to more fish in the ocean than plastic.

Marthe Naudts

