

WATER RIGHTS AND DAY ZERO:
PERSPECTIVES ON THE CAPE TOWN WATER CRISIS

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Cape Town made headlines worldwide when the city government publicized April 12, 2018 as “Day Zero”: the day when taps in one of South Africa’s largest cities would run dry. Notably absent from discussions about limiting water use to avoid Day Zero was a unique right enshrined in South Africa’s constitution: the right to water. The international human right to water was also missing from international news coverage of the Cape Town water crisis. This Article explores if and how the right to water was implicated in responses to the crisis, bringing an international law perspective to the largely environmental science and development focused research on Day Zero to date. Original interview research with stakeholders in South Africa reveals that rights did not feature in the immediate response to Day Zero, but that rights should be considered more in future work to conserve water and ensure equal access for all South Africans. Lessons from Cape Town can also be applied to other cities that may face water shortages due to global trends of climate change and increased urbanization.

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“When the well is dry, we know the worth of water.”

—Benjamin Franklin¹



Street art proclaims “Water is a Human Right,” in Cape Town, January 2019.²

¹ BENJAMIN FRANKLIN, POOR RICHARD’S ALMANAC (1746).

² Natalie McCauley, *Water is a Human Right*, Cape Town (Jan. 2019).

TABLE OF CONTENTS

INTRODUCTION	5
I. DEFINING DAY ZERO	7
<i>A. Climate Change</i>	9
<i>B. Management</i>	10
<i>C. Communication</i>	11
<i>D. Water Use</i>	14
II. RIGHT TO WATER	16
<i>A. South African Constitution: Section 27</i>	16
1. <i>Mazibuko Case</i>	17
<i>B. International Human Right to Water</i>	19
III. PERSPECTIVES ON DAY ZERO.....	21
<i>A. City of Cape Town Government</i>	22
<i>B. City Residents</i>	23
1. <i>Poor Residents</i>	24
2. <i>Wealthy Residents</i>	25
<i>C. Academics</i>	26
<i>D. Water Rights Activists</i>	27
<i>E. Socio-Economic Rights Litigators</i>	29

IV. RIGHTS DISCOURSE AROUND DAY ZERO 30

A. Rights Not Discussed During Day Zero 31

B. Need for Practical Action Overshadowed Abstract Rights 33

C. Emergency Framing..... 33

V. WATER JUSTICE IN SOUTH AFRICA..... 35

VI. SIGNS OF DAY ZERO REMAIN 36

CONCLUSION 39

ANNEX 1: DAY ZERO IN PICTURES..... 41

ANNEX 2: INTERVIEWS 48

INTRODUCTION

Cape Town made headlines worldwide when the city government publicized April 12, 2018 as “Day Zero”: the day when taps in one of South Africa’s largest cities would run dry. This extreme step of choosing a moment of zero water highlighted the severity of the drought-induced water crisis, exacerbated by climate change and missteps in water management. The City of Cape Town embarked on an ambitious communications plan to urge residents to reduce water use. So far, these tactics seem to be working. Drastic water use reductions by ordinary people and the agricultural sector have pushed Day Zero far into the future, past 2019.

Notably absent from discussions about limiting water use was a unique right enshrined in South Africa’s constitution: the right to adequate water. This right has been confirmed by South Africa’s Constitutional Court, albeit with limits, in the 2009 *Mazibuko* case. The United Nations General Assembly recognized the international human right to water in 2010, looking to South Africa as an example of effective national rights enforcement. Yet the international right was also conspicuously missing from the communication about the water crisis.

This Article seeks to understand how South Africa’s constitutional right to water, as well as the international human right to water, factored into Cape Town’s framing of and response to the water crisis. Because news reports available in the United States did not discuss rights, the author conducted in-person interviews with a variety of stakeholders in the water delivery and rights spaces in South Africa. These interviews aimed to gather perspectives on the Day Zero water crisis,

and specifically on the rights dimension of the water shortage. Discussions revealed that the right to water was not a particularly salient feature in the response to Day Zero, but individuals working to increase equal access to water and avoid future water shortages do think the right to water has a part to play in their future work.

This Article brings an international human rights law perspective to the largely development and environmental science-focused discussions of Cape Town's water crisis. Further research should explore more specifically if the right to water was, or could have been, suspended during the water crisis, under both the South African Constitutional and public international law provisions allowing for suspension of rights during emergencies.³

Cape Town avoided Day Zero in 2018, but the legacy of the drought remains. In January 2019, street art and signs in restaurants and other public places still urged Capetonians and visitors to reduce water use.⁴ These signs are physical reminders of the profound change in water use that remains in place in Cape Town, which remains at risk for water shortage. As climate change continues to limit the global freshwater supply, the state of the right to water will continue to be tested worldwide, in cities like São Paulo and Los Angeles.⁵ Analyzing Cape Town's response at the levels of both the concrete constitutional right and the more

³ See S. AFR. CONST., 1996, Section 37.

⁴ See generally *infra* Annex 1.

⁵ See Craig Welch, *Why Cape Town Is Running Out of Water, and Who's Next*, NATIONAL GEOGRAPHIC (Mar. 5, 2018), <https://news.nationalgeographic.com/2018/02/cape-town-running-out-of-water-drought-taps-shutoff-other-cities/>.

abstract international human right to water reveals connections between rights ideals and rights implementation, for the right to water and other related rights.

I. DEFINING DAY ZERO

Day Zero was meant to represent the calculated day when the City of Cape Town would run out of water. The image of Day Zero was stark, invoking apocalyptic notions of taps running dry, the end of convenient water use as it was.⁶

But even on that day, there would still be water for essential services—like hospitals—for three months in Cape Town.⁷ Residents would have to stand to collect water for home use at communal water sources, like standpipes.

The Day Zero water crisis refers to the water shortage in the Western Cape province from late 2017 to early 2018, centered in the largest urban area, Cape Town. The crisis began after a drought, which left the city's water supply reservoirs with lower volume than average years because the dam reservoirs “rely on the annual rainy season replenishment.”⁸ Following the drought, there was “insufficient

⁶ For images of people waiting in line to fill water jugs at standpipes and dry surrounding landscape, see generally Melanie Gouby, Ekaterina Ochagavia, Franco Bogino, & Mustafa Khalili, *Day Zero: how Cape Town stopped the taps running dry—video* (June 5, 2018), <https://www.theguardian.com/environment/video/2018/jun/05/day-zero-how-cape-town-stopped-taps-running-dry-video>.

⁷ See Interview with Gina Ziervogel, University of Cape Town (Jan. 17, 2019), notes on file with author, 1-2; Aryn Baker, *Cape Town Is 90 Days Away From Running Out of Water* (Jan. 15, 2018), <http://time.com/5103259/cape-town-water-crisis/>.

⁸ Friederike E L Otto et al., *Anthropogenic influence on the drivers of the Western Cape drought*

water storage to satisfy the water demand of ~3.7 million residents of Cape Town and irrigated agriculture in the Western Cape from the end of 2017 and throughout the dry season into 2018.”⁹ Higher temperatures and humidity also likely increased evaporation rates in the open reservoirs, depleting water faster than normal.¹⁰

Initial estimates predicted that “the city of Cape Town was expected to run out of water in March 2018 (reservoir replenishment from the 2018 rainy season was not expected to happen before June).”¹¹ The City of Cape Town took extreme measures to avoid running out of water, beginning in August 2017. In short:

As the city was preparing for ‘day zero’—the day on which all pipes would run dry and residents would have to get water from communal taps—extreme restrictions on water usage were implemented starting from August 2017 in an attempt to save water and to push out ‘day zero’ further into the future. The water conservation efforts implemented by citizens helped to significantly cut down consumption.¹²

Factors relevant to avoiding Day Zero include household water demand, agricultural use, rainfall, and building new water projects (borehole wells and desalination plants).¹³ The causes of the crisis are primarily climate change, issues with water management, and high water use by businesses and residents. The

2015–2017, 13 ENVTL. RES. LETTERS 1, 2 (2018).

⁹ *Id.*

¹⁰ *See id.*

¹¹ *Id.*

¹² *Id.*

¹³ *See* Kevin Winter, *Day Zero is meant to cut Cape Town’s water use: what is it, and is it working?*, CONVERSATION (Feb. 20, 2018), <https://theconversation.com/day-zero-is-meant-to-cut-cape-towns-water-use-what-is-it-and-is-it-working-92055>.

following Sections explain these three most salient elements of Day Zero, in order to provide context for the perspectives discussed later in the Article.

A. Climate Change

The drought in Cape Town can be seen as an emblem of climate change. Gina Ziervogel, Associate Professor in the Environmental and Geographic Science department at the University of Cape Town, situates Day Zero in the context of “climate extremes that cities increasingly have to prepare for” in the wake of climate change.¹⁴ Ziervogel has studied the Day Zero water crisis extensively, after experiencing the drought first-hand. The water infrastructure in Cape Town is driven by rain collection and freshwater river diversion in dams. Low rainfall because of climate variability caused the dam levels to be low in the years leading up to the Day Zero crisis.¹⁵

Below average rainfall from 2015-2017 “led to the worst drought since 1904 and an unprecedented water shortage” in the Western Cape province.¹⁶ Cape Town is “the world’s first metropolis to confront such a fate,” but in the “era of climate change” it will not likely be the last city to face unprecedented water shortages.¹⁷

¹⁴ Gina Ziervogel, *The water shortage lessons all cities need to learn from Cape Town’s “Day Zero” threat*, QUARTZ AFRICA (Apr. 4, 2019), <https://qz.com/africa/1587143/cape-towns-day-zero-water-shortage-lessons-we-learned/>.

¹⁵ Interview with Gina Ziervogel, *supra* note 7, at 1

¹⁶ Friederike E L Otto et al., *Anthropogenic influence on the drivers of the Western Cape drought 2015–2017*, 13 ENVTL. RES. LETTERS 1 (2018).

¹⁷ Joseph Cotterill, *South Africa: How Cape Town beat the drought*, FINANCIAL TIMES, (May 1, 2018).

But some researchers point out the risks of blaming climate change for Cape Town's water problems. Mike Muller, an engineer and visiting Adjunct Professor at the Wits School of Governance at the University of the Witwatersrand in Johannesburg, points to government water management, more than nature or anthropocentric climate change, as the main culprit for Cape Town's troubles.¹⁸

B. Management

Managing water resources is a complex task which requires coordination of policymakers and scientists. In South Africa, water management also requires coordination between the national Department of Water and Sanitation and the local provincial and city-level governments. Ziervogel identified governance and management issues as exacerbating the climate-driven water shortage in Cape Town. Muller highlights management as the main driver of Day Zero because government officials—at the national or city level—could have instituted restricted use programs and diversified water storage to mitigate the effects of climate change and who residents should trust to provide guidance during the crisis.¹⁹

Politics also played a part in the management issues in Cape Town. . The political situation of Cape Town is different from the majority of the country. The African National Congress (“ANC”) is the political party in power in most of the

¹⁸ Mike Muller, *Cape Town's drought: don't blame climate change*, NATURE: COMMENT (July 6, 2018), <https://www.nature.com/articles/d41586-018-05649-1>.

¹⁹ *Id.*

country, as it has been “since the end of apartheid and the transition to democracy in 1994.”²⁰ But in the Western Cape province and the City of Cape Town, the opposition party—the Democratic Alliance (“DA”)—holds the power.²¹ The severity of Cape Town’s water shortage led the national government to get involved, which seemed to muddy the waters of who was in charge.²²

C. Communication

The term Day Zero can be seen as a scare tactic, a marketing ploy, or an accurate description of a day when there will be zero water running out of the taps in Cape Town. The term “Day Zero became the apocalyptic code name for when water systems across the city would be switched off. After this moment, people would be forced to fetch their water from distribution points,” a provincial action that seemed out of place with the modern infrastructure wealthy white citizens were accustomed to in 2017.²³ Speaking specifically about waiting in line for water helped citizens imagine the more severe inconvenience that awaited them, should

²⁰ John Campbell, *Despite Challenges, South Africa’s ANC Likely to Remain in Power*, COUNCIL ON FOREIGN RELATIONS (Apr. 23, 2019), <https://www.cfr.org/blog/despite-challenges-south-africas-anc-likely-remain-power>.

²¹ *Where We Govern*, <https://www.da.org.za/where-we-govern> (last visited May 6, 2019).

²² See City of Cape Town, *Drought Crisis: National Government stipulates new water-saving target* (Oct. 1, 2017), <http://www.capetown.gov.za/Media-and-news/Drought%20crisis%20National%20Government%20stipulates%20new%20water-saving%20target>.

²³ Gouby et al., *supra* note 6, at 4:04-4:15.

they not reduce their water use while the water still flowed in their home taps.

The Premier of the Western Cape province, Hellen Zille, spoke on the Morning Live television news program in a direct appeal to residents about the severity of Day Zero: “The projection is that Cape Town will run out of water sometime early in April. That means you have to save water as if your life depends on it.”²⁴

The strategy was expensive, but effective at avoiding the much more costly arrival of Day Zero. The City spent more than a million rand, or about 70 thousand U.S. dollars, on the communications campaign.²⁵ This included hiring Resolve Communications, a private public relations firm, with ties to the DA.²⁶

Officials brought Resolve on board in late 2017, hoping sharper messaging would shake Capetonians into changing their consumption habits as the city entered its hot summer months with dam levels already low. The firm warned that defining “Zero” as zero would only shock residents out of their complacency when it was already too late.²⁷

²⁴ Hellen Zille, in Gouby et al., *supra* note 6, at 3:54-4:03.

²⁵ See Kaylynn Palm, *Day Zero Campaigns Cost City of Ct More Than R1m*, EYEWITNESS NEWS (July 11, 2018), <https://ewn.co.za/2018/07/12/day-zero-campaigns-cost-city-of-ct-more-than-r1m>. See also XE currency converter: 1 ZAR to USD = 0.0695943 US Dollars, <https://www.xe.com/currencyconverter/convert/?Amount=1+million&From=ZAR&To=USD>.

²⁶ James de Villiers, *Firm headed by former DA heavyweights to net R650k for Cape Town drought communication*, NEWS24 (Jan. 16, 2018), <https://www.news24.com/SouthAfrica/News/firm-headed-by-former-da-heavyweights-to-net-r650k-for-cape-town-drought-communication-20180116>.

²⁷ Jon Allsop, *In Cape Town, journalists count the cost of ‘Day Zero’ water narrative*, COLUM. JOURNALISM REV. (Oct. 5, 2018), <https://www.cjr.org/analysis/cape-town-day-zero-water.php>.

The City chose to continue with the shocking Day Zero term, despite Resolve’s warning. Some people did see the severe language of Day Zero as the City of Cape Town “cajoling water consumers into reducing usage,” but the urgency of the water shortage necessitated the pleading tone the City took.²⁸ With the help of the communications firm, the City’s messaging was more organized. The City instituted a program called Thinkwater to be the hub of water conservation. One element of this program was City-sponsored signage urging people to “Help Us Save Water,”²⁹ using language evoking the communal nature of the water as a shared resource, requiring all to conserve so all can continue to have access to water.³⁰ The City also printed and distributed more specific signs with guidance on what the 50 liter per person per day water limit—the goal to drastically reduce total use—means practically, listing how much water daily tasks use and making suggestions for saving water.³¹ Decreasing water use was the most significant way that Cape Town extended the lifetime of its depleted reservoirs, and clear communication as to how residents could use less water and the urgency with which they must focus on conservation were essential elements of this success.

One piece of evidence that the City was using every tactic in its

²⁸ Kevin Winter, *Day Zero is meant to cut Cape Town’s water use: what is it, and is it working?*, CONVERSATION (Feb. 20, 2018), <https://theconversation.com/day-zero-is-meant-to-cut-cape-towns-water-use-what-is-it-and-is-it-working-92055>.

²⁹ See Natalie McCauley, *Thinkwater*, Simon’s Town (Jan. 2019), *infra* Annex 1, Image 3.

³⁰ See L.A. Fennell, *Ostrom’s Law: Property Rights in the Commons*, 5 INT’L J. COMMONS 9 (2011).

³¹ See Natalie McCauley, *50L*, Cape Town (Jan. 2019), *infra* Annex 1, Image 4.

communications arsenal was the City Water Map.³² The map “expose[d] private meter readings to public scrutiny,” increasing the community ethic around the water crisis by introducing an element of social pressure and even shame.³³

Neighbors could see when others’ water meters showed higher usage than the mandated limit. The City also installed electronic water crisis warning signs on freeways, which indicated “how much water the metro has left at current consumption rates.”³⁴

The communication of the water shortage as a directly imminent crisis facing every resident in the city seemed to be effective. Kevin Winter, a member of the University of Cape Town’s Water Task Team, reported that Cape Town “reduced the overall city’s water use virtually by 200 million liters per day,” as compared to January 18, 2018, before the communications strategy began.³⁵

D. Water Use

Saving water by reducing water used for everyday activities was the main

³² City of Cape Town, *Water Map*, <https://citymaps.capetown.gov.za/waterviewer/> (last visited May 6, 2019).

³³ David W. Olivier, *Cape Town’s Map Of Water Usage Has Residents Seeing Red*, HUFFINGTON POST (Jan. 1, 2018), https://www.huffingtonpost.co.uk/2018/01/23/cape-town-s-map-of-water-usage-has-residents-seeing-red_a_23341120/?ncid=other_saredirect_m2afnz7mbfm&guccounter=1.

³⁴ City of Cape Town, *City’s water crisis warning on freeway signs goes live* (Feb. 18, 2017), <http://www.capetown.gov.za/Media-and-news/City's%20water%20crisis%20warning%20on%20freeway%20signs%20goes%20live>.

³⁵ Kevin Winter, *in* Gouby et al., *supra* note 6, at 4:16-4:31.

way that Cape Town avoided Day Zero. Street art painted on a wall near a drawbridge in Cape Town's seaport smartly differentiated the freshwater shortage from plentiful ocean water. An image of a tap is situated next to the words "Our dams won't rise this easily. Please save water."³⁶ Natural freshwater has never been plentiful, though both the Atlantic and Indian oceans provide plentiful coastline water access. As the urban area of Cape Town grew, the modest amount of freshwater available had to be used by exponentially more residents.

Restrictions on water used by agriculture and industry contributed as well. Who is using water, and in which amounts, matters, especially against the background of especially racial but also economic inequality, perennially present in South Africa.³⁷

Infrastructure distribution within the country is divided along racial lines; the provision of infrastructure in white areas is at par with first world standards and equivalent to that in the five most developed countries in the world. This is in sharp contrast to the black communities, where the situation is akin to that of some of the least developed Third World countries. This contrast between the Third World and First World is one of South Africa's more striking features.³⁸

Some residents of Cape Town felt that industry should have been hit harder by

³⁶ See Natalie McCauley, *Dams Won't Rise*, Cape Town (Jan. 2019), *infra* Annex 1, Image 5.

³⁷ See generally Aryn Baker, *What South Africa Can Teach Us as Worldwide Inequality Grows*, TIME (May 2, 2019), <http://time.com/longform/south-africa-unequal-country/>.

³⁸ Lucrecia Seafield, *South Africa: The Interdependence of All Human Rights*, in HUMAN RIGHTS UNDER AFRICAN CONSTITUTIONS (Abdullahi Ahmed An-Na'im, ed., 2003),

restrictions.³⁹

II. RIGHT TO WATER

A. South African Constitution: Section 27

The South African Constitution specifically guarantees the right to water for its citizens.⁴⁰ Only 17 other states in the world also have constitutional rights to water.⁴¹ In South Africa, the right to water is found among other rights involved in sustaining life, an example of how the Constitution “recognizes the interdependence and the interaction of social and political rights.”⁴² Section 27 of the 1996 Constitution provides:

Section 27: Health care, food, water and social security

1. Everyone has the right to have access to
 - a. health care services, including reproductive health care;
 - b. sufficient food and water; and
 - c. social security, including, if they are unable to support themselves and their dependents, appropriate social assistance.

³⁹ Simon Wood & Francois Verster, *The Countdown to Day Zero*, ATLANTIC (Mar. 5, 2019), <https://www.theatlantic.com/video/index/584179/dry-city/>.

⁴⁰ *Cf.* California Water Boards, Human Right to Water Portal (2018), https://www.waterboards.ca.gov/water_issues/programs/hr2w/ (explaining that California is the first state in the U.S. to recognize a human right to water because California Assembly Bill 685 (Sept. 25, 2012) articulates that “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes”).

⁴¹ Florence Higuette, *States recognizing the right to water in their constitution*, RAMPEDRE (Nov. 16, 2014), http://www.rampedre.net/implementation/territories/national/world_table_constitution.

⁴² *Seafield*, *supra* note 38 at 295.

2. The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.
3. No one may be refused emergency medical treatment⁴³

The Constitution was an emblem of the end of apartheid, full of specific promises for how the new democratic government would support all of its citizens. But without implementation by the government and understanding of the rights by citizens, the Constitution is simply a list of ideals. Serious work needed to be done to educate citizens on the rights afforded to them in their Constitution.⁴⁴ The national government did attempt to educate citizens about the Constitution, but even in 2019 many citizens who have been educated by public schools do not know about some of the unique and important rights guaranteed to all by the South African Constitution, including the right to water.⁴⁵

1. *Mazibuko Case*

The state is the actor who must deliver the right to access to “sufficient food and water,” by “reasonable” legal means.⁴⁶ The Constitutional Court interpreted what reasonable means include in the *Mazibuko* case. This case confirmed the right was a progressive right, meaning that the government could take small steps within its

⁴³ S. AFR. CONST, 1996, Section 27.

⁴⁴ *Seafield, supra* note 38.

⁴⁵ See Interview with Residents of Khayelitsha: Ishmail Mvuyisi Mtwcu & Nathi Mqikela (Jan. 14, 2019), notes on file with author, 5.

⁴⁶ S. AFR. CONST., 1996, Section 27(2).

judgment to determine how to provide sufficient water.⁴⁷ The Court in *Mazibuko* acknowledged the importance of water and the need for equal access to water, especially in the context of South Africa's persistent inequality and idealistic Constitution.

Although rain falls everywhere, access to water has long been grossly unequal. This inequality is evident in South Africa. While piped water is plentifully available to mines, industries, some large farms and wealthy families, millions of people, especially women, spend hours laboriously collecting their daily supply of water from streams, pools and distant taps. In 1994, it was estimated that 12 million people (approximately a quarter of the population), did not have adequate access to water. By the end of 2006, this number had shrunk to 8 million, with 3,3 million of that number having no access to a basic water supply at all. Yet, despite the significant improvement in the first fifteen years of democratic government, deep inequality remains and for many the task of obtaining sufficient water for their families remains a tiring daily burden. The achievement of equality, one of the founding values of our Constitution, will not be accomplished while water is abundantly available to the wealthy, but not to the poor.⁴⁸

The Court continued, though, to rule that pre-paid water meters—which can be shut off by the City if residents do not pay—are lawful, not unfair or unreasonable in the government's decision about how to implement the Constitutional right to water.⁴⁹ The Court declined to articulate a specific quantity of water as the minimum necessary for effecting the right, despite the plaintiffs'

⁴⁷ See *Mazibuko and Others v. City of Johannesburg and Others* (CCT 39/09) (2009).

⁴⁸ *Mazibuko v. City of Johannesburg*, *supra* note 47, at ¶2.

⁴⁹ *Id.* at ¶156-58.

efforts to show that international standards require 50 liters for sufficient water use.⁵⁰

The socio-economic rights advocates who brought the case do not all see the result as a win for water rights. Advocates wanted the Court to be specific, to set a minimum of 50 liters per person per day as the amount the government must provide free of charge. Rights activists were disappointed by this ruling because it overturned lower court holdings, which did incorporate international water quantity and quality standards into South Africa's interpretation of the right to water.⁵¹ International standards report that 50 liters per person per day is the minimum amount of water needed to sustain life, including drinking, cooking, and cleaning.

B. International Human Right to Water

In 2010, the United Nations General Assembly passed a resolution declaring an international human right to water.⁵² The U.N. Human Rights Council appointed an expert to specifically address the human rights obligations that are implicated in access to clean water, and her 2009 report likely spurred action in the

⁵⁰ *Id.* at ¶159.

⁵¹ Peter Danchin, *A Human Right to Water? The South African Constitutional Court's Decision in the Mazibuko Case*, EJIL: TALK! (Jan. 13, 2010), <https://www.ejiltalk.org/a-human-right-to-water-the-south-african-constitutional-court%E2%80%99s-decision-in-the-mazibuko-case/>.

⁵² United Nations General Assembly Resolution 64/292, *The Human Right to Water and Sanitation*, A/RES/64/292 (July 28, 2010).

General Assembly.⁵³ Even earlier, in 2003, the United Nations Educational, Social, and Cultural Organization General Comment 15 defined which needs a basic source of water must fulfill: “The water supply for each person must be sufficient and continuous for personal and domestic uses. These uses ordinarily include drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene.”⁵⁴

These international rights are relevant in South Africa, as Section 39 of the Constitution mandates that interpretation of the Bill of Rights “must consider international law.”⁵⁵ In *State v. Makwanyane and Another*, the South African Constitutional Court articulated that South African Law should incorporate public international law and international human rights law.⁵⁶ Though this case was decided under the interim Constitution, not the current 1996 Constitution, the principles of looking to international law as guidance when deciding cases in South African courts remains. Additionally, even before the current Constitution was adopted, “[c]ustomary international law has always been considered part of South

⁵³ Catarina de Albuquerque, *Report of the Independent Expert on the Issue of Human Rights Obligations Related to Access to Safe Drinking Water and Sanitation*, UNITED NATIONS HUMAN RIGHTS COUNCIL, A/HRC/12/24 (2009).

⁵⁴ United Nations Committee on Economic, Social and Cultural Rights, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant), E/C.12/2002/11, ¶12(a), (2003).

⁵⁵ S. AFR. CONST., 1996, Section 39(1)(b).

⁵⁶ *State v. Makwanyane and Another* 1995(3) SA 391 (CC); 1995(6) BCLR 665 (CC).

African law.”⁵⁷ Though the international human right to water may not yet be custom, the rights to life and health which the right to water emerged from are largely accepted as custom. Current Constitutional Court Justice Cameron agrees, speaking highly of his obligations to decide cases about rights in his court in line with international law,⁵⁸ as the current Constitution requires.⁵⁹ But activist Dale McKinley disagrees about how practically relevant international rights are for ordinary South Africans. McKinley clarified that “in South Africa, it’s not about international law, but about how struggles are similar elsewhere.”⁶⁰ Their different perspectives come from the different levels at which these people work. Speaking with more South Africans about how, or if, they associate water rights with Day Zero yielded many more such interesting dichotomies, as well as some commonalities.

III. PERSPECTIVES ON DAY ZERO

There are many objective ways to measure the realities of Day Zero, like water used or tourist revenue lost. More multidimensional and thus interesting measures come from the lived experiences of individuals in and around Cape Town.

⁵⁷ Seafeld, *supra* note 38, at 306.

⁵⁸ See Interview with Edwin Cameron, Constitutional Court, (Jan. 11, 2019), notes on file with author.

⁵⁹ (1) When interpreting the Bill of Rights, a court, tribunal or forum—
 (a) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom;
 (b) must consider international law; and
 (c) may consider foreign law.
S. AFR. CONST, 1996, Section 39.

⁶⁰ Interview with Dale McKinley, Right2Know, (Jan. 10, 2019), notes on file with author, 3.

This Part distills interviews from a variety of stakeholders in South Africa during January 2019, after Day Zero was avoided but long before the crisis has been forgotten. The author and Jackie Dugard selected interviewees with the aim of speaking with individuals from across the major groups of stakeholders. They determined these major groups based on background knowledge of the elements of Day Zero and water rights, from local South African and international experience. The selection is an anecdotal sample, intended to spark further discussion and research about the many elements of Day Zero and its myriad effects on South Africans. The author and Dugard interviewed most people jointly in person, though some information was gleaned from video conference or e-mail responses and interviews with only one researcher present.⁶¹

A. City of Cape Town Government

Former Mayor of Cape Town, Patricia deLille, did not see any immediate water rights or equity issues during the crisis.⁶² By her account, the tariffs for water use over the limit during the drought were very effective in generating revenue for the City to use to implement their plan to combat the water crisis. She explained that the Water Management Devices (“WMDs”) the City put on residential taps

⁶¹ All interviewees were informed that their responses would be used in joint and individual research by both Jackie Dugard and Natalie McCauley, and interviewees were given an opportunity to decline to be cited. Notes from the interviews are available upon request from the author.

⁶² See Interview with Patricia deLille, Former Mayor of Cape Town (Jan. 24, 2019), notes on file with author, 1.

were used equally in wealthy and low-income neighborhoods. But, she did concede that there is a justice problem with the WMDs: residents must apply to the local Council to remove or change the limits on their WMDs. People in townships like Khayelitsha, who do not trust the government, will not likely be able to change their water amount or their WMDs removed.⁶³

Government officials faced risks to their reputations based on how they handled the crisis. As the city's political leader at the time, deLille, took a lot of the political blame for how close Cape Town came to reaching Day Zero. Her former party—the DA—kicked her out of their ranks in November 2018, citing charges of corruption, but likely also influenced by the state of the water crisis.⁶⁴

B. City Residents

The people most directly affected by the drought were the residents of the City of Cape Town and its immediate surroundings. The experiences of residents in poor versus wealthy areas were vastly different, unsurprising against the background of severe inequality in South Africa. Johnny Miller captured an image of South Africa's inequality from above: the verdant Hout Bay suburb on the left starkly compares to the informal settlement Imizamo Yethu on the right, just 15km outside of Cape Town.⁶⁵ In a dry area like Cape Town, water use for maintaining

⁶³ See *id.* at 2.

⁶⁴ Jason Felix, *WATCH: #DeLille reaches her Day Zero with the DA*, IOL (Nov. 1, 2018), <https://www.iol.co.za/capeargus/news/watch-delille-reaches-her-day-zero-with-the-da-17728847>.

⁶⁵ See Johnny Miller, *Hout Bay / Imizamo Yethu*, Unequal Scenes (Apr. 2016), <https://unequalscenes.com/hout-bay-imizamo-yethu>, *infra* Annex 1, Image 2.

lush lawns and tall trees seems extravagant. The far fewer trees in the informal settlement reveal a lack of space for plant life among tightly packed houses and lower availability of water for things outside subsistence of drinking, cooking, and cleaning. This photograph was taken in April 2016, and signs of a drought are already showing in the patches of dry, sand-colored strips between houses on both sides.⁶⁶

1. *Poor Residents*

Low-income residents, especially those living in townships or informal settlements, have always had to live with a limited amount of water to use. The *Mazibuko* case clarified that even those who cannot afford to pay for water must be afforded access to basic water. In informal housing settlements and townships, where income levels are very low, 50 liters is often considered a maximum, if people do not pay for water.

The individuals the author spoke with in the Khayelitsha township—the largest in the Cape Town area—knew that there was a water crisis, but they did not know the details of restriction levels. Some identified the cause of the water shortage as climate change, like they were taught in school.⁶⁷ They also did not know about their right to free water. A few of them had high water bill debt, which

⁶⁶ See E-mail correspondence with Johnny Miller, Date of Hout Bay / Imizamo Yethu photo (May 6, 2019), on file with author; see also Katherine Pomerantz, *The Story Behind TIME's Cover on Inequality in South Africa*, TIME (May 2, 2019), <http://time.com/5581483/time-cover-south-africa/>.

⁶⁷ See *supra* Interview note 45, at 5.

is a possible violation of their right to have the state provide reasonable access to water.

One resident of knew of an abstract right to water, in so far as she knew the government could not just shut off all taps in her neighborhood, but she did not know of a specific Constitutional right or how to go about enforcing that right for herself.⁶⁸

2. *Wealthy Residents*

The wealthy residents saw their water use newly restricted. Gordon Chunnnett, a member of the Constantia Rate Payers and Residents Association, a wealthy suburb of Cape Town, connected the right to water to one of the City of Cape Town's responses: slowing water taps of high water users to a "trickle" rather than shutting water supply off, since the right meant the government "could not cut off supply completely."⁶⁹ But to Chunnnett, the right to water was not the most central feature of the government's response. Instead, he points to the failings of the national Department of Water and Sanitation ("DWS").

⁶⁸ See Interview with Residents of Khayelitsha: Resident F (Jan. 14, 2019), notes on file with author, 6.

⁶⁹ E-mail interview with Gordon Chunnnett, Constantia Rate Payers and Residents Association (Jan. 21, 2019), notes on file with author.

The fact that you or I may have a constitutional right to water, clean filtered potable water was hardly the theme of concern, it was availability or lack thereof. Arguably, if we have a constitutional right to water, then central government is accountable to the people to make sure that supply is adequate to the demand. And here I hint at the calamity that is the DWS.⁷⁰

This wealthy resident was more able to engage in a discussion of rights than the residents of Khayelitsha. And also more willing to criticize the national government in specific ways.

C. Academics

Academics saw the crisis in the context of other research about South Africa. Their perspectives allow them to conduct further research about “lessons learned” from Cape Town, which could be applied to other cities facing water shortage in the future.⁷¹ Gina Ziervogel, a professor in the Environmental and Geographic Science department of the University of Cape Town, has extensively studied the physical causes of Day Zero, as well as the management of those physical resources.⁷² Her boldest statement was that she almost wished that Day Zero had happened for a few days so residents would have to experience standing in line for water and consequently (hopefully) appreciate the resource enough to value it more highly and

⁷⁰ *Id.*

⁷¹ For a comprehensive account of lessons learned about mitigating climate change and improving governance, see Gina Ziervogel, *Unpacking the Cape Town Drought: Lessons Learned*, CITIES SUPPORT PROGRAMME: AFRICAN CENTRE FOR CITIES (Feb. 2019), https://www.africancentreforcities.net/wp-content/uploads/2019/02/Ziervogel-2019-Lessons-from-Cape-Town-Drought_A.pdf.

⁷² *Id.*

use it more wisely. She also thinks that South Africans are “currently not paying enough for water,” and that the artificially low price of water implies to users that the resource is not scarce.⁷³

Laila Smith, Evaluation System Advisor at the Center for Learning on Evaluation and Results (“CLEAR”) at the University of the Witwatersrand in Johannesburg, studied the water crisis through a data management lens, informed also by her background in direct legal services work. Smith confirmed that there are massive water access issues in South Africa, especially in informal settlements, but that sanitation is the more pressing problem.⁷⁴ Her reasoning as to why water access has not been discussed in terms of rights is comparative: “Water is a positive right and housing is a negative right,” so housing has been more in the access vernacular.⁷⁵

On why international rights are not very present in South Africa, Smith says the United Nations Environmental and Social Council (“ECOSOC”) in Geneva seems like such an abstract thing that it would not be well understood in national media, so there is little media coverage of developments in international human rights.

D. Water Rights Activists

These individuals tried to connect the human element of needing water to

⁷³ See Interview with Gina Ziervogel, *supra* note 7, at 1.

⁷⁴ See Interview with Laila Smith, CLEAR, (Jan. 10, 2019), notes on file with author, 1.

⁷⁵ *Id.*

live to the abstract Constitutional right to water, much more concretely than the ECOSOC. They sometimes work together, like in the Western Cape Water Caucus: a coalition of non-governmental organizations (“NGOs”) working with some underserved communities about water access. During the drought, the Environmental Monitoring Group (“EMG”)—an NGO based in Cape Town—spoke with residents in informal housing settlements and townships about the availability of water in their neighborhoods, attempting to ensure they all had adequate access.⁷⁶ EMG’s Thabo Luitshi said that there was a lot of talk of inequality in water circles.⁷⁷

Dale McKinley, an activist with Right2Know, identified privatization of water allocation as a danger for water rights.⁷⁸ The Constitution identifies the government as the provider of rights, and moving this responsibility into the hands of private companies would reduce oversight and leave more potential for unequal, pay-to-drink access. Day Zero was managed by the government (with the exception of the private public relations firm they hired for communications), so privatization was not a direct problem.

McKinley agreed that water access is still a problem in South Africa, but lamented that “water is not the key thing in South Africa any more” in terms of

⁷⁶ Interview with Thabo Lusithi, Environmental Monitoring Group, (Jan. 16, 2019), notes on file with author, 1.

⁷⁷ *Id.*

⁷⁸ Interview with Dale McKinley, *supra* note 60, at 1.

socio-economic rights litigation.⁷⁹ There are not organizations or conditions for individuals to bring cases challenging their water access. He agreed with Smith's analysis that housing is, comparatively, easier to litigate. Individuals can bring their claims of being denied a house to organizations like the Socio-Economic Rights Institute of South Africa ("SERI") and seek recourse of then being granted a home from the government housing stock.⁸⁰

E. Socio-Economic Rights Litigators

The Constitutional Court articulated the importance of litigation to implement the ambitious rights in the Constitution in the *Mazibuko* decision:

The purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds government accountable and requires it to account between elections over specific aspects of government policy.⁸¹

Alana Potter, Director of Research and Advocacy of SERI, said that SERI considered suing the City of Johannesburg for discontinuing free basic water access on July 1, 2017.⁸² SERI was involved in litigating the *Mazibuko* case, also against the City of Johannesburg. There has not been any litigation at the Constitutional

⁷⁹ *Id.*

⁸⁰ *Id.* at 2.

⁸¹ *Mazibuko*, *supra* note 47, at ¶160.

⁸² See E-mail interview with Alana Potter, SERI (Jan. 23, 2019), on file with author.

Court level on the right to water since *Mazibuko*,⁸³ but perhaps integrating the right to water into the crisis in Cape Town could provide impetus for litigating the right anew, beginning by turning back to Johannesburg, in hopes of gaining ground on recognizing a more expansive right to water.

IV. RIGHTS DISCOURSE AROUND DAY ZERO

This research project began by what seemed like a glaring omission from reports about Day Zero: that South Africa's constitution specifically and uniquely guaranteed a right to water. The initial seed of this project began as a simple question: if Day Zero did arrive, and citizens of South Africa had zero direct access to water, what would be the rights implications? International news sources did not mention South Africa's constitutional right nor the international human right to water in their coverage of the water crisis in Cape Town.⁸⁴ One blog post on the environmental activist group Greenpeace's webpage advocated for increased awareness of the human right to water, and the author used the example of Cape Town nearly running out of water as a reason for everyone to conserve water, so all can continue to have access to their right to water.⁸⁵ The post did not directly

⁸³ See Interview with Edwin Cameron, Constitutional Court of South Africa (Jan. 11, 2019), notes on file with author, 1.

⁸⁴ Cf. Baker, *supra* note 7.

⁸⁵ Sidra Ahmad, *Why We Must Never Take Clean Drinking Water for Granted*, GREENPEACE: BLOG (Aug. 2, 2018), <https://www.greenpeace.org/africa/en/blogs/1569/why-we-must-never-take-clean-drinking-water-for-granted/>.

connect Cape Town's crisis with South Africa's Constitutional right or posit how or if the international human right to water could be jeopardized if cities like Cape Town face severe water shortages in the future. Plus, this small mention was written in August 2018, after the crisis had been averted.⁸⁶

But rights have not been entirely absent from the crisis in Cape Town itself. As the author of this Article saw in January 2019 in Cape Town,⁸⁷ Greenpeace Africa stenciled the slogan "water is a human right" and images of people using water in public spaces across Cape Town, Johannesburg, and Durban to "engag[e] in the public space about the water crisis and what it means to realise that water as a human right."⁸⁸ The slogan was accompanied by #DefendWater, encouraging people to tag the images on social media platforms, raising awareness of water as a human right beyond the situs of the crisis in Cape Town, wider to other urban centers in South Africa and the far reaches of the internet.

A. Rights Not Discussed During Day Zero

Neither Constitutional nor international rights to water were discussed much during the Day Zero crisis. One reason for this is a lack of knowledge about the right to water by ordinary citizens. It is axiomatic that "the bill of rights can only become a reality if people are aware of it and its role, and if they possess the

⁸⁶ *Id.*

⁸⁷ See Natalie McCauley, *Water is a Human Right*, Cape Town (Jan. 2019), *infra* Annex 1, Image 1.

⁸⁸ #DefendWater with Greenpeace Africa: *Water is a Human Right*, FREERADZ (June 22, 2018), <https://freeradz.org/defendwater-with-greenpeace-africa/>.

knowledge of how to exercise these rights.”⁸⁹ After the South African Constitution was adopted, the drafters “embarked on a national constitution awareness and education campaign” which included organizing People’s Forums for the public to discuss the bill of rights, sending trainers to local government officials, and distributing a million copies of the constitution to South Africans. Non-government organizations also conducted trainings for government officials, schools, and community groups.⁹⁰ But these programs are not often backed by data collection to determine who is reached and how effective the programs are in actually empowering people to know and actively protect their rights.⁹¹

Based on discussions with individuals, it seems like there is currently an uneven, at best, knowledge of constitutional rights. Some individuals knew of a few rights which directly affected them—like people living in informal settlements knew of the right to housing.⁹²

One reason that rights were not discussed in Day Zero is that the right to water was not actually at risk of being violated. Even if Day Zero arrived, there would be water for essential services. Residents would have to wait in line to collect water from a communal standpipe or well, but some Capetonians in rural and poor urban areas already have to fetch water every day. The government seems to have

⁸⁹ Seafeld, *supra* note 38, at 332.

⁹⁰ *Id.* at 331-32.

⁹¹ *Id.* at 333.

⁹² *See* Interview with Residents of Khayelitsha: Ishmail Mvuyisi Mtwcu & Nathi Mqikela, *supra* note 45, at 5.

determined that it is reasonable for some people not to have individual water taps in their homes, in line with Section 27's procedural requirement for the government to determine how rights are allocated.

B. Need for Practical Action Overshadowed Abstract Rights

The behavior change campaign that the City of Cape Town spent considerable money on did not focus on the right to water, but instead laid out practical steps residents could take to reduce their household water use and help to avoid Day Zero. Rights were likely not the focus of the materials the City distributed because there were more important messages to get across.

Additionally, the management of the communication between levels of government was already taking up considerable resources. It was more important to spend time and energy fixing the “breakdowns in the interaction between national, provincial, and municipal government that exacerbated the problem” of the water shortage.⁹³

C. Emergency Framing

The South African Constitution specifies many rights guaranteed to its citizens, but it also allows for those rights to be suspended in a time of emergency.⁹⁴ But Day Zero was never legally declared state of emergency by Parliament, which is

⁹³ Ziervogel, *supra* note 14.

⁹⁴ S. AFR. CONST. 1996, Section 37.

required to trigger Section 37.⁹⁵ The water crisis was declared a national disaster, which could be a valid reason for a state of emergency, and which did mean that the national government took control of Day Zero relief efforts.⁹⁶ Politically, this was a difficult dynamic, since the DA controlled the Western Cape but the ANC controlled the national government. Because of the urgency of the problem, politics do seem to have been set aside, at least temporarily.

But if the national disaster designation had gone further, and if Day Zero had been declared an emergency, could the national government have put aside the right to water temporarily? Section 27 rights are not included in the tale of non-derogable rights amended to the Bill of Rights.⁹⁷ Can fundamental rights be suspended by declaring an emergency?⁹⁸

⁹⁵ *Id.*

(4) Any legislation enacted in consequence of a declaration of a state of emergency may derogate from the Bill of Rights only to the extent that—

- (a) the derogation is strictly required by the emergency; and
- (b) the legislation—

- (i) is consistent with the Republic's obligations under international law applicable to states of emergency;
- (ii) conforms to subsection (5); and
- (iii) is published in the national Government Gazette as soon as reasonably possible after being enacted.

⁹⁶ See *Cape Town drought declared a 'national disaster'*, BBC NEWS (Feb. 13, 2018), <https://www.bbc.com/news/world-africa-43047833>.

⁹⁷ *But see, e.g.*, Equality, human dignity, and life (Sections 9-11), S. AFR. CONST, Table of Non-Derogable Rights.

⁹⁸ See Rachael Lorna Johnstone and Aðalheiður Ámundadóttir, *Human rights in crisis: securing the International Covenant on Economic, Social and Cultural Rights (ICESCR) in economic downturns*,

Future work should be done on this question, specifically asking government officials who spoke in the language of emergency if they meant to trigger Section 37 and thus be forgiven for not fulfilling the right to water, if Day Zero came to fruition. An answer may be that potentially answering why rights were not the focus of government or activist action during the Day Zero water crisis, from a legal perspective.

V. WATER JUSTICE IN SOUTH AFRICA

South Africa's history of apartheid, residual inequality, and restorative promise of a positive rights Constitution mean that the concept of justice is very salient in the minds of South Africans. When asked about rights, interviewees seemed to have an academic response, theorizing about how to connect the rights they knew of or had just been told of to their very real experiences with water shortage during Day Zero. People responded more easily when asked about fairness and justice, rather than rights. Some felt that industry and wealthy home users had been using an unfair share of water, possibly exacerbating the crisis. But most felt that the City's response of instituting water restrictions for all, even including allowing people who could afford high excess water use tariffs to use more, was just.

Individuals pointed to justice as the goal of their work, rather than implementing rights. The difference between justice and rights in this context are

1 INT'L J. HUM. RTS. AND CONST. STUD. 6 (2013) (providing a framework of reporting and monitoring rights in times when states are unable to actively protect rights).

materially distinct enough to merit careful consideration. If individuals internalize the concept of justice as what they want from their government—to feel like they are being treated fairly in comparison to their fellow citizens—then the government’s implementation of rights should follow that concept of justice.

Activating the rights in the Constitution requires citizens to want the government to fulfill the promises the Bill of Rights makes.

The extent to which a legal system guarantees, promotes, and protects the interests of a society is unfortunately not solely judged by the manner in which its highest courts discharge their duty, but ultimately depend on how justice is being dispensed at the level where the majority of citizens interface with the judicial system.⁹⁹

From these interviews, the majority of citizens “interfaced” with the constitutional right to water only tangentially because the level at which they were engaging with the water crisis was so much more immediate and tangible. Water justice was a more compelling, though still somewhat abstract, concept. Linking the right to water with achieving justice in access to water would help citizens take more control over demanding that their right to water be fulfilled.

VI. SIGNS OF DAY ZERO REMAIN

Water justice is a long term project. For justice to be effected properly, the government must focus on environmental and social sustainability.¹⁰⁰ Day Zero shed

⁹⁹ *Id.* at 323.

¹⁰⁰ National Treasury: Republic of South Africa, What the Cape Town Drought Taught Us: 4 Focus Areas for Local Governments, https://www.africancentreforcities.net/wp-content/uploads/2019/02/CSP_climate_drought-lessons_20190218.pdf.

light on important issues of inequality in access to water in Cape Town, despite the Constitutional right, Constitutional Court decision confirming that right, and acknowledgement that the international human right to water extends to South Africans. Moving forward, rights could be marshalled as justifications for continuing water use restrictions. In order for all South Africans to have sustainable access to water, some South Africans cannot use more water than others.

As of January 2019—nearly a year after Day Zero was averted—communications campaigns were still in place to encourage all in Cape Town to reduce their water use. A restaurant on Kloof Street had a simple sign reminding patrons that Day Zero still looms as a potential occurrence: “Save Water, Defeat Day Zero,” it read, placed next to a bathroom sink.¹⁰¹ A shared rental apartment building in the Tamboerskloof neighborhood of Cape Town urges residents to “be water wise” in January 2019.¹⁰² Residents of this unit are typically tourists who may not be familiar with Cape Town’s official water restrictions, so specific signage is helpful. The call to use water sparingly here comes with specific suggestions to share showers or limit shower time to two minutes. Other measures for individuals to reduce water use include having a bucket in the shower to collect excess water running from the shower head, which can then be used for watering gardens or

¹⁰¹ See Natalie McCauley, *Save Water: Defeat Day Zero*, Cape Town (Jan. 2019), *infra* Annex 1, Image 6.

¹⁰² See Natalie McCauley, *Short Showers*, Cape Town (Jan. 2019), *infra* Annex 1, Image 7.

washing clothes. Another method is using hand sanitizer in place of soap and water when washing hands, as suggested by a coffee shop in the Cape Town city center¹⁰³ and a vineyard in Stellenbosch, the famous wine region just outside of Cape Town.¹⁰⁴ Providing hand sanitizer in bathrooms was one way businesses could help combat the water shortage. Another idea suggested at a restaurant in the Gardens neighborhood of Cape Town was to share toilet flushes, saving the considerable amount of water wasted with each flush.¹⁰⁵

Such signs and corresponding actions may have been intended to be temporary, beginning with the most urgent calls to conserve water in late 2017 and early 2018, but the signs and sentiment of conservation remained in force in early 2019, some complete with many enthusiastically urging exclamation marks.¹⁰⁶

From a rights perspective, signs like these are encouraging because they encourage the often wealthier patrons of these establishments to reduce their water use, showing that all people in Cape Town—residents and visitors, rich and poor—must work together for everyone to be able to continue to use water.

¹⁰³ See Natalie McCauley, *Help Us Save Water*, Cape Town (Jan. 2019), *infra* Annex 1, Image 8.

¹⁰⁴ See Natalie McCauley, *Sanitize*, Stellenbosch (Jan. 2019), *infra* Annex 1, Image 9.

¹⁰⁵ See Natalie McCauley, *Flush*, Cape Town (Jan. 2019), *infra* Annex 1, Image 10.

¹⁰⁶ See *Short Showers*, *supra* note 102.

CONCLUSION

Human rights were not the centerpiece of Cape Town's response to the water crisis, nor research immediately following the crisis. Management and inequality seem more concrete than the Section 27 constitutional right to water, or the corresponding international human right. The robust human rights culture in South Africa does leave space for potential litigation clarifying what the right to water is in practice, and what roles different levels of government must play in ensuring equal access to water, during times of rain and periods of drought.

But rights do have a place in the discourse around water scarcity. Rights can serve as a base to build policy that guarantees access to water for all people, even in times of water restriction. New water policies that perhaps set fines after certain instances of high water use should take rights and equitable access into account.

This project on the water crisis also revealed that other rights in South Africa may be in jeopardy. Housing seems to be a much more rights-forward area in the minds of citizens. Some individuals who did not know about the constitutional right to water did know that there is a constitutional right to housing, and they expected the government to fulfill that right, eventually.

This initial research serves as a first step in chronicling the complexities of extreme urban droughts. Based on conversations with actors and users across affected areas in South Africa, climate change, water management, and persistent unequal access to water are three elements of Cape Town's water crisis which merit much more scrutiny. Mitigating the effects of climate change—especially planning

for water retention ahead of likely increased periods of drought—will be necessary for cities across the world to avoid potential Day Zero crises in the future.

Improving the efficiency and transparency of government management of water resources, at the national and municipal level, is necessary. Reducing inequality in access to water is a small but vital part of reducing the overall inequality, especially in this new democracy.

ANNEX 1: DAY ZERO IN PICTURES

Image 1: Water is a Human Right

Street art proclaims “Water is a Human Right,” in Cape Town, January 2019.¹⁰⁷



¹⁰⁷ Natalie McCauley, *Water is a Human Right*, Cape Town (Jan. 2019).

Image 2: Inequality

The verdant Hout Bay suburb (left), starkly compares to the informal settlement Imizamo Yethu (right), just 15km outside of Cape Town.¹⁰⁸ This photograph was taken in April 2016, and signs of the drought are already showing in the patches of dry, sand-colored strips between houses on both sides.¹⁰⁹



Image 3: Thinkwater

The City of Cape Town communicated the communal nature of the water crisis, pleading with people as far out as the Indian Ocean coast in Simon's Town.¹¹⁰



¹⁰⁸ Johnny Miller, *Hout Bay / Imizamo Yethu*, *Unequal Scenes* (Apr. 2016),

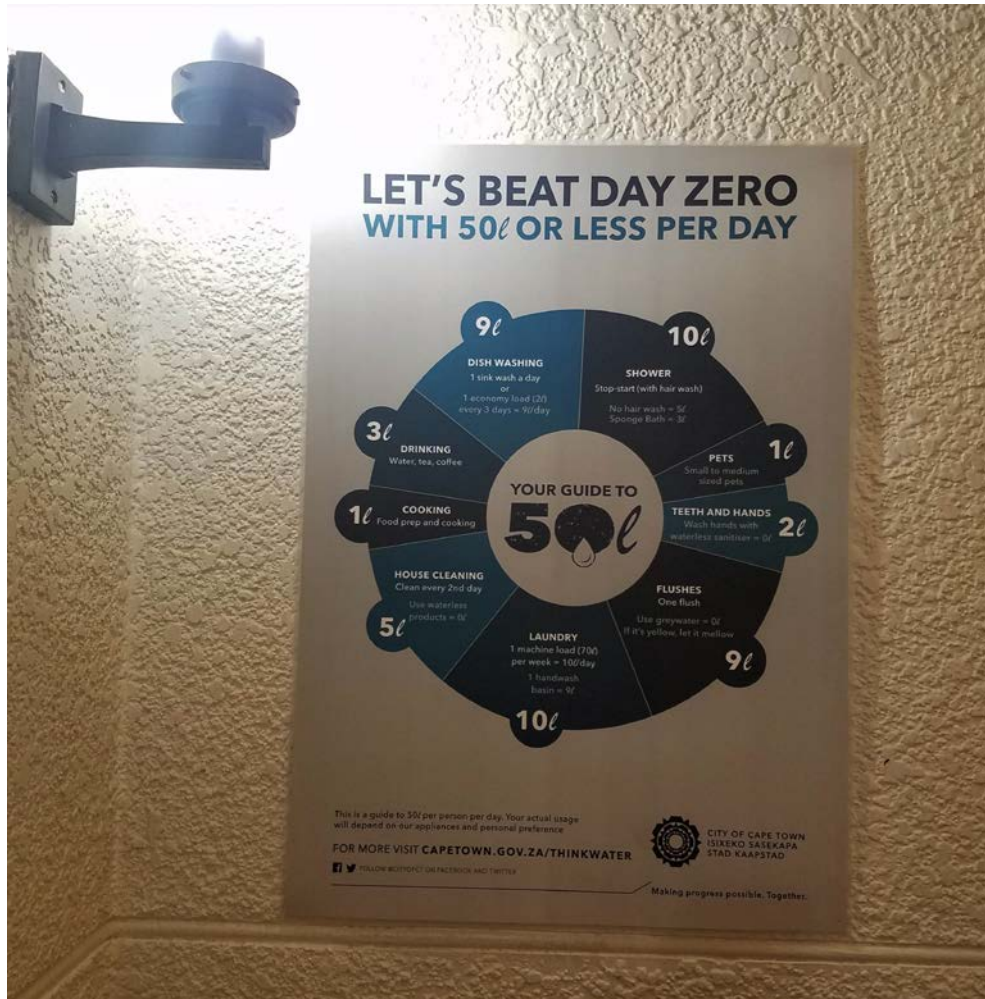
<https://unequalscenes.com/hout-bay-imizamo-yethu>; see also E-mail correspondence with Johnny Miller, Date of Hout Bay / Imizamo Yethu photo (May 6, 2019), on file with author.

¹⁰⁹ Katherine Pomerantz, *The Story Behind TIME's Cover on Inequality in South Africa*, *TIME* (May 2, 2019), <http://time.com/5581483/time-cover-south-africa/>.

¹¹⁰ Natalie McCauley, *Thinkwater*, Simon's Town (Jan. 2019).

Image 4: 50L

The City also made and distributed posters with very specific guidance on what the 50 liter per person per day water limit means practically. This educational image was seen at a popular Cape Town hostel and community space.¹¹¹



¹¹¹ Natalie McCauley, *50L*, Cape Town (Jan. 2019).

Image 5: Dams Won't Rise

Street art painted on a wall near a drawbridge in Cape Town's seaport smartly differentiated the freshwater shortage from plentiful ocean water with an image of a tap situated next to the words "Our dams won't rise this easily. Please save water."¹¹²



¹¹² See Natalie McCauley, *Dams Won't Rise*, Cape Town (Jan. 2019).

Image 6: Save Water: Defeat Day Zero

A restaurant on Kloof Street in Cape Town reminds patrons that Day Zero should not be forgotten; in 2019 everyone should still save water to avoid a potential shortage.¹¹³

**Image 7: Short Showers**

A shared apartment building in the Tamboerskloof neighborhood of Cape Town urges residents to “be water wise” in January 2019.¹¹⁴



¹¹³ Natalie McCauley, *Save Water: Defeat Day Zero*, Cape Town (Jan. 2019).

¹¹⁴ Natalie McCauley, *Short Showers*, Cape Town (Jan. 2019).

Image 8: Help Us Save Water

A coffee shop in the city center of Cape Town pleads with guests to use the non-water alternatives provided to clean their hands.¹¹⁵



¹¹⁵ Natalie McCauley, *Help Us Save Water*, Cape Town (Jan. 2019)

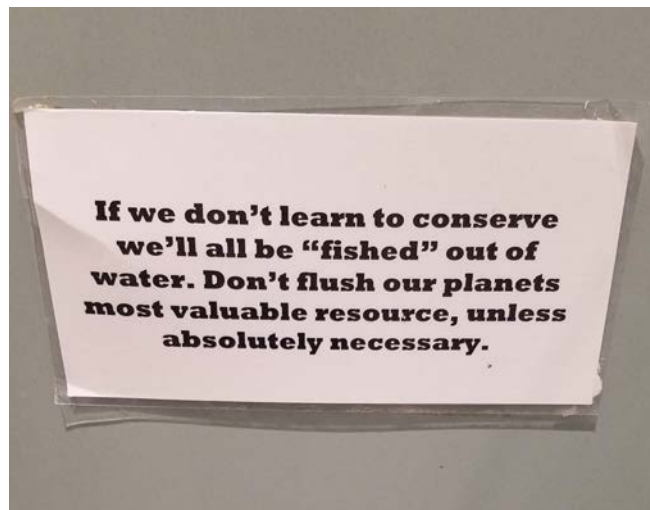
Image 9: Sanitize

A vineyard in Stellenbosch suggests visitors skip water altogether and use hand sanitizer to clean their hands, providing an alternative to using water, making behavior change simple.¹¹⁶



Image 10: Flush

A restaurant in the Gardens neighborhood of Cape Town shares another suggestion to save water: share toilet flushes.¹¹⁷



¹¹⁶ Natalie McCauley, *Sanitize*, Stellenbosch (Jan. 2019).

¹¹⁷ Natalie McCauley, *Flush*, Cape Town (Jan. 2019).

ANNEX 2: INTERVIEWS

Interviews with the following individuals were conducted by the author and Professor Jackie Dugard, University of Witwatersrand, in Johannesburg and Cape Town, South Africa in January 2019. Their perspectives should be taken as anecdotal, not emblematic of the entire group in which they are categorized. This Annex is provided to clearly show which groups were included in this project, as a starting point for collecting more perspectives on Day Zero in these and other categories in future work. Typed notes from interviews are on file with the author and Dugard.

A. City of Cape Town Government Official

Patricia deLille

- Former Mayor of Cape Town
- Interview in Cape Town
- January 24, 2019

B. City of Cape Town Residents

1. Poor Residents

Residents of Khayelitsha

- Multiple interviews with anonymous and named residents in Khayelitsha
- January 16, 2019

2. Wealthy Residents

Members of suburban homeowners' associations

- E-mail interviews with members of Constantia Rate Payers and Residents' Association
- January 21, 2019

C. Academics

Gina Ziervogel

- Associate Professor, Environmental and Geographic Science department, University of Cape Town
- Interview at University of Cape Town
- January 17, 2019

Laila Smith

- Director at Center for Learning on Evaluation and Results at Wits ("CLEAR"), Evaluation Systems Advisor
- Interview at CLEAR, University of Witwatersrand, Johannesburg
- January 10, 2019

D. Water Rights Activists

Dale McKinley

- Water rights activist, Right2Know
- Interview at School of Law, University of Witwatersrand, Johannesburg
- January 10, 2019

Thabo Lusithi

- Water and Climate Change team, Environmental Monitoring Group (“EMG”)
- Interview at EMG, Cape Town
- January 16, 2019

Jeff Rudin

- Alternative Information and Development Centre (“AIDC”)
- Interview at AIDC, Cape Town
- January 24, 2019

E. Socio-Economic Rights Litigators

Lisa Chamberlain and Sithu Mkhize

- Acting Director and Attorney at the Centre for Applied Legal Studies (“CALs”)
- Joint interview at, CALS, University of Witwatersrand, Johannesburg
- January 10, 2019

Science and Policy Specialist based at a public interest law firm (anonymous)

- Skype interview in Cape Town
- January 11, 2019

Alana Potter

- Director of Research and Advocacy at the Socio-Economic Rights Institute of South Africa (“SERI”)
- E-mail interview
- January 23, 2019

F. Constitutional Court Justice

Edwin Cameron

- Justice, Constitutional Court of South Africa
- Interview at Constitutional Court, Johannesburg
- January 11, 2019