

Scholarship on urban Africa's water crisis narratives: the state of the art

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Water crises present a global water governance challenge. To date, scholarship has tended to focus on technological and policy-based solutions, while ignoring the influence of narratives on public buy-in during such crises. Africa is expected to become hotter and drier in future, while its cities experience high levels of informal population growth and inequality. These factors combine to make African cities particularly vulnerable to times of water stress. The aim in this paper is to investigate the state of the 'art' on narratives framing domestic water use in African cities during periods of acute water stress and 'crises', using a systematic literature review of peer-reviewed academic journal articles. The findings revealed a small population of recently published papers that engage critically with state-generated narratives framing the crisis, limited to case studies on Cape Town and Windhoek. We recommend, however, a greater critical engagement with the anti-establishment narratives that can flourish during periods of acute water stress, and tend to be inflammatory and divisive in nature.

INTRODUCTION

Periods of acute water stress (often referred to as 'crises') are a global risk to society (World Economic Forum, 2019) because they undermine trust in water authorities, providing a window of opportunity for opposition groups to challenge and redefine structures of governance (Godinez et al., 2019; Rubin, 2010). Acute water stress periods tend to engender conflict in population-dense, unequal, segmented societies with competing water use sectors (Christian et al., 2017). Regional and local politics are also influential, as opposition leaders and dissident groups can politicise water crises, drawing on familiar framings such as inequality and injustice (Tempelhoff, 2015; Rubin, 2010). Such characteristics are commonplace in many African cities (Christian et al. 2017), as well as high informal population growth and inadequate water infrastructure (Dos Santos et al., 2017).

Scholarship on water governance focuses overwhelmingly on policy- and technology-driven approaches, while less attention has been paid to the narratives framing water governance, which influence public buy-in to – and therefore the impact of – such policies and technology (Godinez et al., 2019; Hurlimann and Dolnicar, 2012). The framings of notions of 'crises' and 'scarcity' also need careful interrogation (Kaika, 2003; Mehta, 2005, 2010). Mehta (2003, 2005, 2010) argues that water scarcity is not only a natural phenomenon driven, for example, by periods of acute drought but is also the product of the social and power relations that shape water practices, use and water access. Cape Town's 2016–2018 'water crisis' is a case in point: The City of Cape Town's Water Conservation and Demand Management Programme won first prize at the C40 Cities Awards 2015 (C40 Cities, 2019 – a largely cities-based network with mayoral support and funded by Bloomberg Philanthropies amongst others), but in the three years that followed, public trust in local water governance disintegrated, as reflected in the 'outpouring of alarmist and distrustful articles in the media' (Gosling, 2018). Thus, the 'communication, negotiation, conflict [and] rhetoric' (Gergen, 1985 p. 268) in narratives framing water governance may undermine trust in water authorities, notwithstanding sound policies and technology (Fløttum and Gjerstad, 2016; Hurlimann and Dolnicar, 2012).

Much of the narrative analysis applied to water governance focuses on the relationship between state legitimacy and its provision of basic services. For example, Mehta (2003), on Indian bulk water infrastructure, highlights the state's construction of scarcity to justify profiteering water projects. While exposing hegemonic water narratives, this perspective ignores the considerable power vested in (segments of) society to challenge the dominant discourse. This power is better addressed by Rodina and Harris (2016) on Cape Town, who similarly highlight the correlation between perceptions of state legitimacy and service provision, and the potential for political engagement by previously disenfranchised. These papers study the impact of structural inequalities on perceptions of the legitimacy of water authorities.

Other research shows, however, that the undermining of state legitimacy may be engineered through the construction of polemic, exaggerated or distorted narrative framings. For example, Hurlimann and Dolnicar (2012), through a content analysis of newspapers published during an episode of drought in Australia, indicate that media framings of acute water stress may influence public buy-in, and thereby impact on the efficacy of crisis-mitigating policies and infrastructure. Similarly, Kaika (2003) investigated the drought in Athens between 1989 and 1991 and addresses the intensity – violence even – of the narratives that occurred during the throes of this crisis. In Kaika's (2003) case study, dissidents framed water as natural and a human right, in order to delegitimise usage tariffs and water demand

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management. ‘Crisis’ episodes, such as acute water stress, appear to provide opportunities for the contestation of narrative framings, with an outcome being the fragmentation of society and the loss of public buy-in to official crisis mitigation strategies.

Narrative is a tool to create a frame of an event. In the same way that a photographer frames their shot by choosing which details to include or exclude, so a narrator uses a narrative to ‘frame’ an event in order to communicate a particular perspective to an audience (Fløttum and Gjerstad, 2013; Fløttum and Gjerstad, 2016). A useful conceptualisation of the political contestation of narrative framings is found in the 2017 Kenyan elections (Maweu, 2017). In this case, ‘weaponised narratives’ (Hendricks and Verstergaard, 2019) were created ‘to subvert and undermine [...] institutions, identity, and civilization [...] by sowing and exacerbating complexity, confusion, and political and social schisms’ (Allenby, 2017 p. 66). Thus, while scholarship on water crisis communication has tended to focus on government’s use of narratives to consolidate power (cf. Kaika, 2003; Mehta, 2003, 2005, 2010), more attention needs to be given to the influence of narrative contestation on public perceptions of water governance during times of acute water stress in the African context. Throughout the present paper, ‘public’ refers to citizens, while ‘government’ refers to the state, typically the state’s water authorities. These terms are interrogated in more detail in the results section of this paper.

In this paper, we adopt a systematic review to establish the contours of the scholarship on narratives framing domestic water use in African cities during water crises. We find that the population of papers on this subject is extremely limited and small ($n = 5$), and, with the exception of one paper from Windhoek, this field of inquiry only really emerged following Cape Town’s 2016–2018 ‘water crisis’. Based on a narrative analysis of these papers, we show that these publications tend to frame water crisis narratives in terms of a government-versus-population perspective, and present the media as the mouthpiece of either actor in a battle to control the dominant narrative. Our conclusion is thus twofold: (i) a broader array of case-studies on this subject is needed that represents cities from other African countries, in order to create a more nuanced perspective on this subject, and (ii) a more nuanced conceptual framing is required of the actors involved to avoid stereotyping ‘the state’, ‘the public’ and ‘the media’ as unified entities at enmity with each other.

METHODS

On 7 May 2019, we searched the following databases: Directory of Open Access Journals, EBSCOhost, JSTOR, ProQuest, Sabinet, SAGE, Science Direct, Scopus, Springer Link, Taylor and Francis and Web of Science. The following search criteria were adopted: all in title: (water OR IWRM OR rain OR drought OR climate OR natural) AND (full text: Africa AND (crisis OR crises OR scarcity OR shortage OR conflict) AND (governance OR government OR political) AND (narrative OR discourse)). We chose not to limit the search to synonyms of ‘domestic water use’ at this stage because of the variety of such synonyms. The selection for papers on domestic water use was rather done manually, as indicated in the following section. No parameters were set for the publication date. All citations were exported to EPPI Reviewer 4 for processing.

We screened 4 281 titles and abstracts after removing 1 544 duplicate items. Articles qualifying for inclusion described empirical research on narratives framing domestic water supply during water crises in Africa. Excluded articles were therefore: not in English ($n = 5$); not empirical research ($n = 314$); not on domestic water use ($n = 1 643$); not on an African country ($n = 1 199$); not on human subjects ($n = 622$); and on behaviour only, not narratives ($n = 353$). Of the remaining articles that mentioned narratives ($n = 145$), 80 were on gender roles, 22 were on rituals and hygiene, 20 on legal frameworks of water access, 9 on water supply projects, 8 on water demand management technologies, and 6 on water crises, of which one was set in colonial-era Algeria, and so was excluded. Thus, only 5 peer-reviewed papers were found that conduct empirical research on narratives framing domestic water supply during ‘water crises’ in Africa (Table 1). It is worth noting that 4 of these 5 papers represented a portion of the flurry of research articles on Cape Town’s water crisis that emerged from 2017 onwards. The majority of these were, however, excluded by the selection criteria for this review as they were drought review papers (e.g. Muller, 2018; Olivier and Xu, 2019; Vogel and Olivier, 2018), news or opinion pieces (Harris et al., 2018), or they did not analyse narratives on domestic water use (e.g. Madonsela et al., 2019; Visser, 2018; Wolski, 2018).

A narrative analysis was adopted for coding, analysing and interpreting data from the full text of the five papers presented in Table 1, in order to provide a framework for exposing rhetorical

Table 1. Final selection of peer-reviewed papers that conducted empirical research on narratives framing domestic water supply during water crises in Africa

Authors	Year of publication	Title	Journal	Keywords
Enqvist & Ziervogel	2019	Water governance and justice in Cape Town: An overview	Wiley Interdisciplinary Reviews	Drought, flooding, South Africa, water demand management, water governance, water justice
Nhamo & Agyepong	2019	Climate change adaptation and local government: Institutional complexities surrounding Cape Town’s Day Zero	Journal of Disaster Risk Studies	Climate Change, Day Zero, Water, Municipalities, SDGs
Robins	2019	‘Day Zero’, hydraulic citizenship and the defence of the commons in Cape Town: A case study of the politics of water and its infrastructures	Journal of Southern African Studies	Water, citizenship, activism, the commons, commodification
Scott et al.	2018	The story of water in Windhoek: A narrative approach to interpreting a transdisciplinary process	Water	Transdisciplinary, water, narrative, Windhoek, co-production, participatory
Visser	2018	A perfect storm: The ramifications of Cape Town’s drought crisis	The Journal for Transdisciplinary Research in Southern Africa	Cape Town, drought, ‘Day Zero’, water restrictions, political fall-out, water demand strategy

devices in a seemingly dispassionate text (Fløttum and Gjerstad, 2016). Our application of narrative analysis is situated in the broader theoretical framework of social constructionism, which argues that public perception, knowledge or beliefs are not a 'reflection or map of the world', but are social artifacts (Gergen, 1985 p. 266). Narrative analysis is the process of deconstructing the narratives framing such perceptions to expose and interrogate the rhetorical devices in the 'stories' of the subtext that frame an event (in our case, water crises) (Fløttum and Dahl, 2012).

Narrative analysis emerged with the work of Vladimir Propp on Russian folklore (1958), upon which Adam (2008) based his typology of narrative sequence, which may be applicable to an interpretation of all texts, particularly those that are not overtly framed as stories, for example, such as policy documents or academic articles (Fløttum and Gjerstad, 2016). This typology identifies characters and the role they play in the plotline of the 'story' (Fløttum and Gjerstad, 2016). Adam's (2008) typology is interpreted through the extensive work of Fløttum and Dahl (2012), Fløttum and Gjerstad (2013) and Fløttum and Gjerstad (2016), who apply narrative analysis to policy documents to expose the rhetorical devices that contribute to the persuasive power of a text for framing moral responsibilities, defining problems, indicating causes and promoting solutions, but through their concealment in the subtext, are more likely to evade the critical engagement (Fløttum and Gjerstad, 2016).

The value of narrative analysis for the purpose of the present study is illustrated in its application to the proceedings of a workshop of water experts discussing Windhoek's 2015–2017 water crisis (Scott et al., 2018) and climate policy documents (Fløttum and Gjerstad, 2013; Fløttum and Dahl, 2012). In these applications of narrative analysis, the characters are broadly categorised as heroes, villains and victims (Fløttum and Gjerstad, 2016). We will be adopting this typology in our analysis of academic papers in the present study.

Every instance in the five papers presented in Table 1 in which any character is quoted or paraphrased by the authors for all public communications during the water crisis were selected and coded in EPPI Reviewer 4. In qualitative data analysis, this method is referred to as 'indexing', or 'code-and-retrieve' (Elliott, 2018). Broadly speaking, three types of characters (the state, the public and the media) appear in all four of the papers, whereas minor types of characters (experts, businesses, farmers and NGOs) are only present in some of the papers. The present study focuses on the narratives of the state, the public and the media, as portrayed in the texts under analysis.

The five papers in Table 1 differ in some respects, particularly in terms of their structure, discipline and depth of focus. For example, Robins (2019), being an ethnographic study, is the most in-depth, using the behaviour of an individual to interpret issues of justice in Cape Town's water governance. Conversely, Enqvist and Ziervogel (2019), for example, adopt a high-level framing in the context of South Africa's water policy environment. Nevertheless, our selection criteria ensured that the reviewed texts shared important commonalities, namely: they are all from science journals and all are based on empirical research of a specific case of drought in an African city. The selected papers therefore appear to share sufficient commonalities to be analysed together for the purposes of the present study. While a population of five papers is relatively small for a field of research (and this dearth is a key finding of the systematic review), it is a relatively large number of texts to include in a single narrative analysis, relative to the narrative analyses cited in the present study. Our intention, in analysing all five papers and drawing comparisons between them (as well as discussing them in light of the existing conceptual and contextual papers cited in the present study), is to

increase the validity and generalisability of the findings beyond what may have been possible in an analysis of one of these texts, or a comparison of two.

The following results section begins by broadly outlining the context in which the papers are placed, namely the Cape Town and Windhoek droughts, respectively, before engaging with the three main characters as they are portrayed by the texts under analysis. Each section on the state, the public and the media tracks the evolution of each character over the course of the story. As elaborated in the discussion section thereafter, the subsection titles, namely: The State, The Public and The Media are deliberate stereotypes or generalisations, reflecting how they tend to be presented in the papers under analysis, as well as by the broader literature on water crisis narratives (cf. Mehta, 2003). For this reason, in keeping with existing conventions for narrative analysis (cf. Scott et al., 2018), we provide a page number for paraphrases as well as for direct quotes, in order to indicate the specific location of the sequence of text being referred to.

RESULTS

The contexts

In a population of over 4 000 papers from academic databases, our systematic review indicated that only five peer-reviewed papers conducted empirical research on narratives framing domestic water supply during water crises in Africa in the post-colonial era. Four of these, Visser (2018), Enqvist and Ziervogel (2019), Nhamo and Agyepong (2019) and Robins (2019), address Cape Town's 2016–2018 water crisis, while Scott et al. (2018) address Windhoek's 2015–2017 water crisis. Both crises stimulated complex political and social conflicts, and manifold social, political and meteorological events either exacerbated or mitigated these crises – key aspects of which are described in more depth over the course of this results section. At the risk of oversimplifying these complex phenomena, the following paragraphs present a brief synopsis of each crisis in order to give the reader a simple timeline through which to make sense of the more in-depth analysis that follows.

Cape Town's water crisis began with the enforcement of residential water use restrictions in January 2016, following a low winter rainfall (Visser, 2018). The subsequent two winters experienced record-breaking low rainfalls. A countdown to the city's water supply being shut off began, labelled 'Day Zero' (Enqvist and Ziervogel, 2019). Although the supply system reached unprecedented low levels, the winter rains in 2018 sufficiently replenished the supply dams to negate the Day Zero countdown, thereby ending the crisis (Enqvist and Ziervogel, 2019).

Windhoek's water crisis spanned 2015 to 2017. The low rainfall over this time necessitated water demand management, a water saving campaign and the planning of an aquifer recharge scheme. This scheme was however postponed while the city waited for national government to release the funds. Funding for the scheme was released just in time before the city's water ran out, by the end of 2016, ending the crisis (Scott et al., 2018).

The state

The presentation of public authorities in the five papers begins with a reductionist framing of the state as utilitarian: emotionless – almost mechanical – going about governance. In this characterisation, the public are passive recipients of the state's narrative. Stolid verbs such as 'declared', 'announced', 'proposed' and 'published' abound to describe the state's communication of, for example, restrictions, water-saving tips, additional levies, and other practical communications (Enqvist and Ziervogel, 2019 p. 8; Nhamo and Agyepong, 2019 p. 2; Robins, 2019 p. 3; Scott et al., 2018 p. 9; Visser, 2018 p. 3).

This utilitarian framing of the state evolves however as the crisis deepens; the state's limitations begin to emerge as the narrative progresses. Such limitations may include the failure to win public support due to inadequate self-promotion or the use of inappropriate communication media, such as websites in English, when a significant proportion of the population do not have access to computers and are not native English speakers (Enqvist and Ziervogel, 2019 p. 10). Even the state's own awareness of its limitations is expressed through misgivings about anarchy, epidemics and violent conflict, grimly predicting that 'Day Zero' crisis may 'exceed anything a major city has had to face anywhere in the world since the Second World War or 9/11' (Robins, 2019 p. 10).

Dysfunctional communication is also described within government: either within a tier of government (municipal or local, provincial and national) or between tiers, as blame-shifting and in-fighting (Nhamo and Agyepong, 2019 p. 5; Robins, 2019 p. 17). Both the Namibian and South African cases cite communications that indicate dislocation between government tiers; particularly between local and national government (Enqvist and Ziervogel, 2019 p. 7; Nhamo and Agyepong, 2019 p. 7; Scott et al., 2018 p. 8, 9, 12; Visser, 2018 p. 5). Local government is portrayed as actively involved in crisis mitigation by all of the articles in this review, while national government, though rarely featured, is typically characterised as shirking its responsibilities, such as routine maintenance or infrastructure upgrades (Enqvist and Ziervogel, 2019 p. 11; Scott et al. 2018 p. 8, 11). In Nhamo and Agyepong (2019 p. 7), national government accuses their political opponents ruling Cape Town municipality and the province it is in of mismanaging the crisis. Visser (2018 p. 5), however, records dissonance between local and provincial government, namely provincial government's objection to a drought levy proposed by the municipality, even though both tiers are run by the same political party. The same party's national leader also reports deciding to take control of local governance of the crisis, being 'not fully satisfied' with the performance of the mayor (Visser 2018 p. 5). Visser's (2018) paper ends with the state characterised as dysfunctional. The remaining four papers also characterise the state in this way, but continue to evolve this character.

A characterisation that follows that of the dysfunctional state is the harried state, as the state's narratives change from belligerence to despair. For example, in the Namibian case, this despair is framed as resulting from the state feeling overwhelmed by the forces of nature. Scott et al. (2018) frequently apply the adjective 'vulnerable' at this stage of the paper when describing how local government frames itself: vulnerability to extreme weather, climate change and drought (Scott et al., 2018 p. 8, 11). This vulnerability ends however with the injection of funding from national government for an aquifer recharge scheme. Scott et al.'s (2018 p. 11) characterisation of the state therefore concludes with the state exonerated.

By contrast, Enqvist and Ziervogel's (2019) paper concludes with Cape Town's government framing itself as vulnerable and harried. The City's Disaster Plan notes the difficulty of communicating 'the seriousness of the situation while avoiding a sense of panic' (Enqvist and Ziervogel, 2019 p. 10), and the mayor laments, 'a majority of people do not seem to care' about saving water (Enqvist and Ziervogel, 2019 p. 8).

Nhamo and Agyepong (2019 p. 8), having published the latest of all of the papers here reviewed, conclude their narrative with the announcement of the 'defeat' of Day Zero. Notwithstanding this victory, the paper's findings end with a description of criminal charges and investigations instigated against Cape Town's ruling party by dissident civil society organisations (Nhamo and Agyepong, 2019 p. 8).

Robins (2019) alone continues evolving the state's character from petulant to becoming manipulative and forceful. Robins (2019 p. 11), for example, relates how the state has been tricking low-income households into installing water management devices that throttle their water flow in exchange for free leak repairs. Thus, the true character of the state comes to light as its narrative moves from playing the victim to 'cajoling, blaming and shaming' the public in more overt efforts to control their behaviour (Robins, 2019 p. 14).

Robins (2019) uses conflict over access to a natural spring in a Cape Town suburb as a microcosm of the broader inequalities that the water crisis exposed in Cape Town society. Robins' paper culminates in the shutting-down of the spring, framed as a travesty of justice to and loss of democratic representation by disenfranchised segments of society (although the spring was not really 'closed', it was merely piped a few meters farther, to a more accessible parking lot) (Robins 2019 p. 21–22). In the paper's introduction, Robins (2019 p. 8) summarises the paper, describing its conclusion being that fulsome politicians wooed those they punished with congratulations, as 'Team Cape Town', that pulled together to beat 'Day Zero'.

The public

In all of the papers, there are references to 'the public', 'citizens', 'tax-payers', 'residents' and 'Capetonians' that assume a unified whole, typically as a juxtaposition against the state (respectively, Enqvist and Ziervogel, 2019 p. 2; Nhamo and Agyepong, 2019 p. 5; Robins, 2019 p. 9; Scott et al., 2018 p. 9; Visser, 2018 p. 5). Furthermore, Enqvist and Ziervogel (2019), Robins (2019) and Visser (2018) distinguish between two opposing publics: the privileged and the disenfranchised, as well as a third public, the dissidents, who frame themselves as fighting on behalf of the disenfranchised.

Scott et al. (2018 p. 9) refers to the public as a whole feeling hard-done-by because of stringent water-saving targets. Enqvist and Ziervogel (2019 p. 9) highlight this disgruntlement among the disenfranchised and interpret these perceptions as stemming from unmet expectations. Robins (2019 p. 17) is far critical about justice dimensions of the disenfranchised, characterising them as grossly neglected by the state: living in neighbourhoods flowing with raw sewage and in 'shacks' that regularly flood.

Robins (2019) uses this dramatic imagery to contrast the disenfranchised with the privileged public, whom he calls the 'middle class', who complain about the 'public disturbance' in their 'otherwise orderly suburb' caused by the general public flocking to a local spring (Robins 2019 p. 21). While Visser (2018 p. 4) characterises the privileged as benefitting society by spending their own income on unsubsidised water-saving devices, such as rainwater harvesting tanks and greywater recycling systems, Robins (2019 p. 12) interprets this behaviour as self-centred insulation against the water crisis, and presents framings of such behaviour as theft of 'the community's water' (Robins, 2019 p. 12); opportunism 'to go off grid' (Robins, 2019 p. 14); and as the result of local government's construction of a crisis in order to boost the businesses of their cronies (Robins, 2019 p. 13). The sense of indignation fuelled by such interpretations motivates the third type of a character within the public: the dissidents.

Dissidents and the groups they mobilise are present in the four Cape Town papers (Visser, 2018; Enqvist and Ziervogel, 2019; Robins, 2019), but not in the Windhoek paper (Scott et al., 2018). Visser (2018, p. 4, 5) indicates that at least three dissident groups were formed to oppose a 'drought charge' (a fixed rates levy in addition to the usual water bill that the mayor argued was necessary to fund water augmentation infrastructure). The formation of such groups is also mentioned by Enqvist and Ziervogel (2019 p. 9), as

well as reference to groups opposing the quality of service delivery in informal settlements, the installation of water management devices, and what one dissident group calls the 'privatisation of water': that is, water bills. The latter group is also mentioned by Nhamo and Agyepong (2019 p. 8) for demanding an investigation into Cape Town government's tenders for water-saving devices. This group is in fact a key subject of Robins' (2019) paper.

Robins' (2019 p. 3) paper focuses primarily on a dissident group that frames itself as opposing the 'privatisation of water', including the domestic installation of water management devices, building water augmentation plants and billing for domestic water use (Robins, 2019 p. 6). The group is not above inciting violence to these ends, even against government employees (Robins, 2019 p. 11, 22). In fact, the group threatens to use 'mass action' to overthrow local government if their demands are not met (Robins, 2019 p. 16). These demands were laid out in a petition that claims that 'The City used a formula that assumed it would not rain' to artificially construct Day Zero in order to privatise water. The petition is framed as opposing water privatisation, but includes demands such as clearing alien vegetation from the catchment dams and forcing commercial agriculture to adopt water-smart technology (Robins, 2019 p. 13). The petition never gained critical mass, however. The group's march on Parliament was only supported by a few hundred members, and had to be coordinated with a march by a branch of the national trade union to swell the crowd to a few thousand (Robins, 2019 p. 26).

A leadership figure in this group is the key character in Robins' (2019 p. 3) paper: an individual who calls himself the 'Water Master'. His outpost is a natural spring in one of Cape Town's suburbs. Although he lives in a different part of town, the 'Water Master' claims to have grown up in this neighbourhood. The self-designated mandate of the 'Water Master' is to maintain order in the cul-de-sac leading to the spring, which he does by building stanchions out of rope, writing signs to dictate behaviour at the spring, and directing the water with old gutters (Robins 2019 p. 19, 22). He also starts a WhatsApp group in which he fabricates stories (for example, that local government plans to charge for the use of the spring) and propagates inciting narratives that frame local water regulations as 'attacks' on citizens, the crisis as 'an artificial scarcity' and demand management as 'anti-poor' (Robins, 2019 p. 15, 16).

The 'Water Master' acts as if the local councillor, whose official mandate is maintaining order in this cul-de-sac, is his arch rival. Local residents, for example, appeal to the councillor to do something about the filth, noise, congestion and defecation resulting from the crowds collecting water. The 'Water Master', however, denies this state of affairs, and accuses the local councillor of 'inciting' residents to oppose public access to the spring (Robins, 2019 p. 21, 22). Furthermore, the 'Water Master' attempts to dictate to the local councillor which upgrades ought to be performed in the cul-de-sac (such as 'improving the lighting, widening and resurfacing the road and installing security cameras') (Robins, 2019 p. 25), so he is enraged when the local council performs upgrades not to his specifications. Thus, when the local council introduces a police booth to maintain order while they construct a durable reticulation system to pipe the spring water into a more accessible public space a little distance away, the 'Water Master' frames these actions as racist on his WhatsApp group (Robins, 2019 p. 25). Robins' (2019) paper concludes with the cul-de-sac once again quiet, and the 'Water Master' and his group framing themselves as victims of a hegemonic state.

The media

Multiple characterisations are applied to the media across four of the papers. Only in Nhamo and Agyepong (2019) is the media not one of the characters. Scott et al. (2018 p. 9) and Visser (2018 p. 7)

adopt a relatively simple characterisation of popular media as watchdog of the state, but reference only 'the press' or 'newspapers', respectively, without specifying whether local or international newspapers are being referred to. Enqvist and Ziervogel (2019 p. 8) characterise the 'local and international media' and simply 'media' as inciting panic through exaggerated doomsday scenarios (and they cite the *New York Times* in their opening sentence, p. 1). Robins (2019) adopts these characterisations too, initially using a generalised reference to 'the mainstream media', but in a later reference specifies various press, news and broadcasting networks and magazines that reported on the crisis. Robins (2019) alone evolves the media's character to reveal multiple, complex facets, which will be discussed further in this section.

Robins (2019) and Enqvist and Ziervogel (2019) characterise the media as a doomsayer: grossly exaggerating events and predicting worst-case scenarios. For example, the media compares Day Zero with World War II, September 11 (Enqvist and Ziervogel, 2019 p. 1), and the apocalypse (Robins, 2019 p. 6). Such framings are a double-edged sword; seeming to generate panic (Enqvist and Ziervogel, 2019 p. 8; Robins, 2019 p. 6), but also conveying the sense of urgency needed to motivate the public to reduce their water consumption. (Enqvist and Ziervogel, 2019 p. 8, 10). Enqvist and Ziervogel (2019) adopt only this doomsayer characterisation of the media, but Robins (2019) alone presents yet another, third characterisation: naivety.

Robins (2019) alone characterises the media as naive. For example, Robins (2019) begins with local and international media reports framing the water crisis as 'the great leveller', causing privileged and disenfranchised South Africans to suffer equally (Robins, 2019 p. 6). Robins (2019 p. 21) also highlights the naivety of popular media's focus on technological solutions, even solutions as absurd as towing icebergs from Antarctica.

Over the course of the narrative, Robins' (2019 p. 18) media evolves into a more authoritative watchdog, holding the privileged 'middle classes' accountable for using a greater proportion of the water supply than do the disenfranchised. Scott et al. (2018 p. 9) characterise the media as holding the state accountable for not being sufficiently proactive to avert a crisis. Visser's (2018 p. 2) media is the mouthpiece of numerous 'Water Prophets' who for decades had been predicting water scarcity in Cape Town. Visser's (2018 p. 4) media also accuse the state of not 'doing their homework' regarding the cost of water augmentation infrastructure. Scott et al. (2018) and Visser (2018) present only this 'watchdog' characterisation of the media. Robins (2019) however, presents additional facets to this character.

The Cape Town papers reveal tension between the media and the state, with the media at times insinuating accusations or making direct false allegations against local government. Robins' (2019, 19) media suggests that Day Zero was a fabrication when it accuses the state of 'quietly' moving Day Zero back to 2019 (Robins 2019 p. 19), allegedly to present itself well in lieu of the imminent elections (Robins 2019 p. 11). Furthermore, 'media reports' directly attack government, falsely accusing the premier of the Western Cape of wasting water, forcing the premier to present her greasy hair and dusty car as symbols of her austerity (Robins, 2019 p. 4). A councillor in Cape Town accuses 'fake news' articles such as these, as well as the 'conspiracy theories' that were rife on social media, for interfering with the state's messaging for their water-saving campaign (Robins, 2019 p. 14).

DISCUSSION

Narrative analysis deconstructs a text to expose implicit plotlines and characterisations (Fløttum and Gjerstad, 2016; Gergen, 1985). The present study adopts narrative analysis to expose which are

the main characters in academic papers on African cities' water crises, what the narratives of these characters are and whether the papers characterise them as a villain, victim or hero.

With the exception of Nhamo and Agyepong (2019), who do not characterise the media, the main types of characters in the selected papers are the state (municipal, local and national government), the public (the privileged, the disenfranchised and the dissidents), and the media (digital and print media from local and international press and magazines). Enqvist and Ziervogel (2019) and Robins (2019) focus primarily on conflict between local government and dissidents from civil society, while Nhamo and Agyepong (2019), Scott et al. (2018) and Visser (2018) focus primarily on conflict between local and national government. The protagonist, or 'hero' character in four of the five papers (Robins, 2019 being the exclusion) is local government. Environmental factors, namely lack of rainfall, present the inciting incident that launches local government on a quest to restore stasis, namely adequate water provision to the populace. Key challenges along the way include dissent from sections of the 'public', conflict with national government and, in Cape Town, betrayal by same-party provincial government. In these four papers, local government, although the protagonist, is presented as a vulnerable and misunderstood character, with pure motives. Vulnerability, however, requires careful assessment in particular delineating those instances where structural and historical factors embedded in the 'system' configure vulnerabilities and those that are the product (or outcomes) of the so called 'crises'. Ensuring that this complex mix of vulnerabilities is captured and then communicated is extremely difficult but can influence and sway the trajectory of the overall narratives that are produced in times of acute scarcity.

The press in all five papers is presented more-or-less as a unified entity that variously sensationalises the drought, holds public figures accountable (and at times may misrepresent such figures) and emphasises and politicises socio-economic division in society. Although brief distinctions are made regarding the type of press, such as local and international press or online sources, the nature of influence by different types of media is not interrogated in the papers that were reviewed. Notwithstanding the presence of characters such as the press, the plot in all five papers is driven primarily by conflict between local government, national government and dissidents from civil society.

The five papers differ in their ending. Scott et al.'s (2018) paper has a *deus ex machina* ending, with funding arriving from national government at the eleventh hour, while the Cape Town papers have a tragic ending. Those with local government as the protagonist conclude with the state being misunderstood and maligned by the public whom it believes it has 'saved' from crisis (Enqvist and Ziervogel, 2019; Nhamo and Agyepong, 2019), or with local government fractured and in conflict within itself (Visser, 2018). Alternatively, although local government is the villain in Robins' (2019) paper, it is presented as victorious in maintaining its hegemonic power, with the hero, the 'Water Master', representing the dissidents, having failed to win control of a public water spring.

Robins (2019) is the only paper of the five that frames local water authorities as the villain and the public as the hero. This characterisation of the tragic hero being the disenfranchised, and the state the victorious villain, is consistent with seminal research on water narratives, such as Mehta (2003), that aims to expose profiteering in water infrastructure projects that are framed by public authorities as necessary for public wellbeing.

Robins' (2019) 'Water Master' fulfils a Robin-Hood role: attempting to take back a natural spring from the rich and give it

to the poor. By critically engaging with Robins' (2019) paper, the present study exposes a tangle of contradictions in the narrative of this main character. For example, some of the key complaints that the 'Water Master' and his group levelled against local government (such as clearing alien vegetation from supply dams and making commercial agriculture more water wise) are the mandates of national government, but national government's role in the crisis is not mentioned by the dissidents in Robins' (2019) paper. The most likely explanation is because of the collaborations the Water Master's group had with trade unionists allied to national government and opposed to local government in Cape Town (Nhamo and Agyepong, 2019 p. 8).

Furthermore, the 'Water Master' frames himself as serving the public by channelling the spring water with gutters to make it accessible to more people and keeping the peace by policing the crowds gathering water. He also hosts inciting content on his WhatsApp group promoting physical violence, mass action and overthrowing local government. However, when the local government pipes the spring water to a more accessible public space, and polices the crowds at the spring, the 'Water Master' frames these actions as racist and oppressive towards the poor. When the councillor attends to residents' concerns, the 'Water Master' accuses him of inciting the local community to shut down the spring. Thus, Robins' (2019) paper illustrates how dissonant narratives with political interests draw on familiar framings (in the case of the 'Water Master': racism, 'white privilege' and systematic oppression) in order to construct division in society and mistrust in official leadership during water crises (Rubin, 2010).

Enqvist and Ziervogel's (2019) story is also played out primarily through conflict between local government and dissidents, but local government is the protagonist who becomes victimised by severe public backlash by dissident groups and panic-inducing media framings. Furthermore, Nhamo and Agyepong (2019) provide deeper insight into the contestation from the oppositional party ruling national government, who, notwithstanding their own role in exacerbating Cape Town's water crisis, actively drive a narrative framing the water crisis as a failure of local government in Cape Town. These story structures are echoes of Kaika's (2003) seminal case-study on Athens' 1989–1991 water crisis, which shows how narratives can be used strategically during water crises to destabilise trust in public authorities. Research on the use of such 'weaponised narratives' (Hendricks and Verstergaard, 2019) is extremely limited in the field of water crisis narratives, but, in the African context, is better researched on the subject of election campaigns, which highlight the potential for media sensationalism to destabilise society (Maweu, 2017). Furthermore, narratives may be deliberately 'weaponised' (Hendricks and Verstergaard, 2019) for the purpose of undermining trust in certain public authorities, as we see occurring in the behaviour of Robins' 'Water Master' and the group he affiliates with. Sensationalism and the more deliberate weaponization of narratives, generates a stream of exaggerated and contradictory framings of an event, generating an atmosphere of panic and confusion (Hendricks and Verstergaard, 2019; Maweu, 2017). The weaponised narrative may dominate the framing of the event, or may simply contribute to the confusion, but either way the end result is the erosion of trust in the water authority and a reduction of public buy-in to, and cooperation with, crisis-mitigating policies and technology (Kaika, 2003).

But why is it easy to generate subversive narratives in places like Kaika's (2003) Athens, or Cape Town during the recent crisis? Perhaps it is because the seeds of discontent are co-located with the need for water. Kaika (2003) describes the bickering, closely-packed low-income areas, where fears of water shortage drive neighbours to call the police on neighbours, while prodigal irrigation supports the luxuriant gardens of the wealthy 'behind

closed doors', so to speak, patrolled by private security guards. Athens at that time, during the drought, was also reeling from political turmoil, brought on by contestations for power between the socialist and capitalist parties (Kaika, 2003).

While doing away with economic divisions and political schisms may be an unrealistically ambitious recommendation, a solution lies in decoupling political marginalisation from economic marginalisation. An example of how this may be achieved is provided by South Africa's National Drought Forum of the early 1990s, which profiled the vulnerability of the country's poor, incorporated notions of vulnerability into national legislation and, most importantly, brought civic society and trade unionists together with scientists and government (Vogel and Olivier, 2018). Had there existed a precedent of civic society and trade unions in continual communication with water authorities in Cape Town, actions such as the march on Parliament by these groups during the crisis would have been moot. Furthermore, the heightened levels of trust created by a legacy of cooperation would reduce the traction gained by weaponised narratives that flourished in Cape Town's media during the recent crisis (Fløttum and Gjerstad, 2016; Gosling, 2018; Hendricks and Verstergaard, 2019). Kenya's leadership reacted to schism-inducing sensationalistic journalism by muzzling the press (Maweu, 2017). Political dissonance, hyped press and civic protests are, however, examples of democracy at work. To reduce schisms during crises, the solution is not to suppress the freedom of speech or hastily assemble token advisory groups, but rather to cultivate a longstanding tradition of participation in water governance by a broad spectrum of representatives from civil society (Vogel and Olivier, 2018). Investing in trust during the good years reduces the seedbed of discontent that flourishes during times of crisis.

CONCLUSION

The intention of this research is to highlight the implicit and unquestioned framings of African water crises in the academic literature in order to highlight how future research may contribute to a more nuanced perception of water crisis narratives, thereby facilitating water crisis governance with greater insight into the role of narratives in water governance; a field that is currently dominated by policy- and infrastructure-led approaches.

One key finding of the present paper is just how small and recent the body of scholarship is on water crisis narratives in Africa. Of a population of 4 281 texts from 11 databases, only five deal with this subject matter, and have all been published within the past two years of the present paper being written. These papers were written mere months after the crisis abated, or even during the throes of the crisis (cf. Visser, 2018). Furthermore, among these five papers, only two African cities are studied; Windhoek and Cape Town.

The second key finding shows, however, the considerable depth of insight that this handful of papers contribute to a small and emerging field of research. Notwithstanding the limited size, scope and age of this population of papers on water crisis narratives in Africa, the five texts show a degree of critical engagement and nuance given to the subject matter that is promising. The field of water crisis narratives is itself recent and limited. Seminal works such as Kaika (2003) and Mehta (2003), frame conflict in water crisis narratives as occurring primarily between tiers of government and between water authorities and disenfranchised segments of the population.

The papers under review appeared primarily to adopt this framing. Broadly, the papers made distinctions between tiers of government and highlighted contestation between these tiers, as well as different publics (the disenfranchised, the privileged and

the dissidents); scholarship still appears to reflect the characterisation adopted by seminal works on water crisis narratives (c.f. Mehta, 2003; Kaika, 2003) that highlight contestation between broad typologies of the state and the public. What is promising, however, is that whereas Robins (2019) mirrors the framing of the state as monolithic and exploitative of disenfranchised publics, his text presents a more nuanced interpretation of the main characters, revealing skirmishes within neighbourhoods and political parties and between socio-economic groups and tiers of government. Furthermore, the remaining four papers break away from 'traditional' framings of the state as hegemonic to represent local government as 'doing its best', but being misunderstood or misrepresented by dissidents, the press and other tiers of government. They also highlight the actions taken by minor characters, such as residents, farmers and academics, to mitigate the crisis, respectively through private spending on alternative domestic water supplies (bore-holes and rainwater collection), donating agricultural water to the municipal supply dams, and providing an advisory role to local government.

What is noticeable about the reviewed papers, however, is the predominance of a conflict framing, in which the main characters contest how management of the crisis is framed. Such framings may represent a certain facet of events, but obfuscate the cooperation that is occurring, and which contributes to mitigating the crisis. The prevalence of conflict framing is an artifact of narratives (consistent with the truism that there is no story without conflict) (Propp, 1958). While conflict framings are necessary for highlighting failures of governance and human rights abuses, cooperation framings have a role to play in finding what is working, in terms of water crisis mitigation, and exploring those potentials.

Furthermore, as suggested by broader research on the influence of the press on framing public perceptions during African elections, and more specifically, the work of Kaika (2003) that highlights the press's power to frame public perceptions of water crises, the reviewed papers include scant reflection on the agency and influence of the press on framing narratives on water crises in the African context.

Our intention in writing this paper has been to expand on the field of scholarship that uses narrative analysis to expose the 'story' in the subtext of 'dispassionate' texts (Fløttum and Gjerstad, 2016). By selecting academic texts on water narratives from African contexts, our findings showed that the same actors may be presented variously as villains, victims or heroes, depending on the perspective of the various papers' authors. Thus, while we may regard ourselves as scientists, when we communicate our research, we become storytellers, and in our stories, we chose whose interest to promote and whose to vilify. May we adopt the same reflexivity towards the construction of the 'story' in the subtext of our papers as we strive for when crafting the explicit structure of our academic communications.

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