Social Media as a Crisis Response

- How is the water crisis in Cape Town dealt with on Twitter?

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Abstract

In our interconnected world, social media is a vital tool for communication in the everyday life of individuals. The importance of social media in society has increased not only in times of peace, but social media has grown to be instrument of influencing crisis. In recent years, social media’s role in crisis and crisis response was observed by many scholars for different crisis. One of the most recent ones is the water crisis in Cape Town, South Africa, which was chosen as a case study due to its current relevance in the social media landscape. The obviously high use of social in this crisis is what this qualitative desk study investigates. This study does, however, not aim to analyse social media as a solution for a crisis, but sheds light on the patterns of social media behaviour. This research thus aims to understand Why people turn to social media in a crisis? Subsequent to this, this research analyses whether different types of users resort to social media during a crisis for different reasons.

The results were obtained through applying a frameworks: As the main tool of analysis, the Different Users and Usage Framework by Houston et al. (2015). Assisting on explaining some specific part of the findings, the Theory of Planned Behavior (Icek Ajzen, 1991) was applied. Three main findings were analysed for the case study: (1) People turn to social media during a crisis for different reasons and in the case of the water crisis in South Africa, fifteen usage areas were observed. (2) According to the analytical results, different users tend to dominate different usage areas and (3) During the Cape Town crisis, it was common practice for businesses and corporations to raise awareness and combine it with promoting their business.

Keywords
Social Media, Crisis Response, Day Zero, Water crisis, Cape Town, South Africa, Theory of Planned Behavior, Twitter Research, Twitter Archivist
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1. Introduction

1.1 Research Relevance

In today’s society where social media is a fast growing mean for virtual communication, people are able to easily share and exchange information with each other (Ngai 2015, p.33). Sharing one’s opinions, thoughts, emotions or concerns in a crisis situation can for example be used as a coping mechanism or in order to gain support (Neubaum et al. 2014, pp.36-37).

Today social media is even part of the political landscape. The available content can be customized to whatever audience, and the ability to respond creates a discussion. This provides both positive and negative aspects. Political interest and engagement can be easier shared in order to spark activism and coordination. For example during the Arab Springs, people were able to use social media platforms to spread pictures and videos of rebellion and protest, eventually leading to political change (Zeitzoff 2017, pp.1-6). But on the other hand people can be easily persuaded and misled, potentially leading to political polarization or radicalization (Sunstein 2018, p.23). Social media also caused a lot of negative attention during the latest presidential campaign in the U.S, where so called ‘fake news’ were causing misleading information to spread (Allcott & Gentzkow 2017, pp.213-214).

The topic of researching social media in academia is currently interesting when considering the growing scope of the phenomena itself, besides studying social media and networks has been fairly limited until the year of 2007 (Alexander 2014, p.719). Some argue that since social media today is part of individuals’ everyday life, when faced with an emergency or crisis it is not uncommon for people to turn to social media platforms (Reuter & Kaufhold 2017). It is easier for individuals who often otherwise could not get their voice heard to exchange opinions when done via social media, and the therapeutic aspects of emotion sharing can embrace feelings of inclusion (Alexander 2014, pp. 720-723).

There are many other ways social media can be used in a crisis situation and not only by individuals but also authority actors. The ability to monitor citizens’ opinions can keep the government and organizations updated, as well as the fact that the public are often some of the first responders during a crisis. Besides, when authority actors post information about a
crisis on social media, it can contribute to calm the public. When people are better involved and informed about a crisis they are more likely to take on an optimistic approach (ibid., pp.720-723).

The relevance of social media in the field of Peace and development studies becomes clear when looking at how social media and usage behaviour of social media is a growing tool within crisis response (Simon et al. 2015, p.610). This paper will examine the different aspects of social media usage in a crisis situation. More specifically the water scarcity crisis of Cape Town, South Africa. The main tool of analysis is the Different Users and Usage Framework by Houston et al. (2015). In order to look further into the data and specific part of the findings, the Theory of Planned Behavior (Icek Ajzen, 1991) was applied. The framework that will be used for the analytical framework is fairly new and has been tested in a few studies prior to this, however not at the same scope as this study. The framework will be presented in section 2.2, and the previous research has been reviewed in section 2.3. The limitations and delimitations section will point out where this research could have done better, or what could be contributed in future research.

However the study contributes to testing the framework presented by Houston et al. (2015), as well as highlighting some of the opinions by the citizen’s of Cape Town during the crisis. It has also contributed to the existing research on social media use during a crisis, in order to in the future find better crisis responses and tools.

Eight different hashtags were used for analysis, and the research benefited from extra sources of analysis such as the Twitter Archivist online tool, and the Theory of Planned Behaviour (TPB) by Ajzen (1991). The research questions for this study have been answered since the research discovered the following:

People turn to social media during a crisis for many different reasons, the framework provided by Houston et al. (2015) was adapted to the water crisis in South Africa, indicating that in that case the fifteen usage areas were used. This also resulted in questions regarded future new frameworks specifically designed for crisis situations. TBP assisted in highlighting the dimension of factors that indicate behavior, people often value attitudes, the social norms and the efforts needed before acting out behavior (Ajzen 1991). The aspect of the socio-political situation of the case, in this case the water crisis in South Africa might also play a contributing factor regarding who has access so to social media during the crisis (Butler 2017, McKenzie 2018, #29, #39, #47, #102, #103, #124, #131, #164, #166, #207).
1.2 Research Objective and Research Questions

This study will not aim to find social media as a solution for a crisis, but rather try to investigate behaviours; *Why do people turn to social media in a crisis?*. The result of this type of study might help with future research regarding the water crisis in Cape Town or other places, where one wants to find information on the general behaviour of the different actors on social media, and their responses to crisis; *In what way do different social media users use social media during the current water crisis in Cape Town?*

1.3 Analytical Framework Introduction

This research on social media in a crisis situation will be a qualitative desk study examined through an abductive process. Although this study will be focused on the case study of Cape Town, the examination of social media is studied over the internet. This will not create a need for field research. The goal is to better understand the use and value of social media during a crisis.

In order to understand the users of social media, as well as the way it is being used in a crisis situation, the framework established by Houston et al. (2015) will be used. The framework presented aims to categorize users of social media and the different usage areas. Therefore a usage scheme was created and mapped out according to the different phases of a crisis (Houston 2015). The framework and all the functions will be better outlined in section 2.2.

1.4 Methodological Framework Introduction

Social media as a phenomena will be briefly introduced in chapter 2, and after introduced as a tool in crisis response. It will highlight interactions and user patterns, relationships and group formation, and the role of authorities. Peer reviewed articles and books will provide the knowledge and base for the analytical framework.

Since this study is based on studying social media part of the content and references will be provided from Twitter, a social media platform which has grown large within crisis
response landscape (Simon 2015, p.610). Here people can express their own opinions or share other people’s content. Tools like “Tweet Archivist” is known to help when searching for hashtags (#) on Twitter (Lachlan et al. 2016, p.649), therefore it will be used in this research. The data findings will be displayed in tables in order to easier examine them. Additionally, the data collected from the social media landscape regarding the Cape Town water crisis will be analysed through the different users and usage framework by Houston et al. (2015), and the Theory of Planned Behavior (TPB) presented by Ajzen (1991). The TPB will provide a lens on how to look at behaviors and actions. The theory will be explained in section 2.4.

The water crisis in Cape Town, South Africa was chosen as a case study due to its current relevance in the social media landscape (Mezzofiore 2018). A background section of the crisis will be presented in chapter four, and will aim to assist the analysis as well as provide the reader with relevant information. In order to find the information about the crisis, news media, reports, and a limited amount of academia will be examined. Since the crisis has been highlighted mostly in recent media the amount of available academia on the topic might be limited. Although the selection of news sources will be rather critical in order to select legitimate information.

1.5 Limitations and Delimitations

This section will present what this research cannot do (limitations) and what this research will not do (delimitations). This is an important step to acknowledge and address possible issues with the analysis and the overall research design.

1.5.1 Delimitations

Since this study is qualitative the data collecting process has not been limited from the start. All information considered interesting and relevant has been examined. Whilst limitations occured due to time constraints. This study will be a desk study, and much of the information regarding the case study will be provided from secondary sources. This could lead to a limited knowledge and a lack of depth in the background chapter. However, collected tweets will provide primary data.
Social media is a relatively recent phenomena that is constantly evolving and updating (Fuchs 2017), therefore it is important for this study to stay up to date. In terms of choosing and analysing texts this study will aim to seek out as new, yet relevant publications as possible. Due to this it is likely that much information will be provided from secondary sources. For this study that will be rather welcomed due to the constantly changing landscape of social media.

The words ‘crisis’, ‘emergency’, and ‘disaster’ are used interchangingly in this study due to the different focuses in the literature, although in reality they have different attributes. So are the words ‘research’, ‘study’, and ‘paper’.

Data will only be collected in English, therefore some tweets could be lost since the entire population of South Africa might not use English as their main language. This could potentially lead to issues with representation for the research, if the languages used are connected to race or class segregations. This has been taken into consideration throughout the study in order to make an effort to prevent this from occurring.

The results found from this research cannot represent Twitter or social media users as a whole since only a certain amount of tweets was selected. Tweets regarding the crisis but not using hashtags, or other hashtags, have not been used for this research, but could potentially have fitted or aided the study.

1.5.2 Limitations

Since this research will examine social media behavior through the case of the water crisis in Cape Town, one has to take into consideration that the crisis was still ongoing when this research started. Many reactions can still be expressed post crisis, therefore this research might miss information or events that is released or occur after finalization or publication. Furthermore, only the behavior will be studied, and not the impact of the behavior.
This study previously considered to use several social media sources, for example Facebook, and during the process decided to choose only Twitter due to time constraints and size limitations of the study. This could potentially lead to a less diverse representation. Many people use Facebook for other social networking purposes, whilst Twitter is more designed to share concise opinions and updates.

Poor people might not have access to social media like Twitter, as well as elderly people and children. Therefore the scope of this study might rely on results from perspectives received from curtain socio-political backgrounds.

Finally, People’s writings on social media might not correlate with intentions and behavior, which is why there might not be factual conclusions based on the findings.

1.6 Structure of Research

The following structure of this study will contain a second chapter where the analytical framework will be explained more thoroughly, as well as the theory that will help with analysis. Literature reviews of both social media research and the framework will be presented. The third chapter will outline the methodological framework and how the research will be done. Chapter four will provide the necessary background of the case study that is the water crisis in Cape Town, as well as the socio-political landscape. The findings will be presented in chapter five, and analyzed in chapter six. The last chapter, seven will provide the conclusion. An annex will be provided on the last pages in order to show where the tweets used for the analysis originated from.

2. Analytical Framework

2.1 Social Media Literature Review

When examining social media as a concept, a popular article was written by Kaplan and Haenlein in 2010. “Users of the world, unite! The challenges and opportunities of Social
media” has been cited on Google Scholar over twelve thousand times. The article explains how the use of social media has evolved from sending virtual messages to creating virtual worlds, but what really defines social media social is the way that content and messages are now shared in open spaces and accessible to a crowd. Information is being re-posted, changed, modified and reviewed over and over and not always in a commercial matter but for personal matter. A social media user can decide on the level of privacy to use on the internet, yet it is not uncommon to engage in self-disclosure in order to portray a certain impression or produce personal response. Social networking sites such as Facebook allows the user to share personal content such as pictures and videos. The article ends with some advice on how to succeed on social media, mainly as a company or individuals looking for exposure (Kaplan & Haenlein 2010). Fuchs is adding another layer of complexity to the term social media by bringing in aspects of power, inequality and capitalism (Fuchs 2017), while Ngai et al. provide a framework to organize previous research in a large literature review study. The framework looks at behavioural theories and models used in previous social media research and categories it in order to better understand the topic of social media in research. The narrative, causal-chain framework and linkages provides useful when examining the motivations and the different ways users use social media (Ngai 2015).

Behavioral theories within social media are especially interesting within the context of a crisis. During a crisis, emergency or disaster individual users turn to their social networks for emotional reasons (Neubaum 2014). The article by Neubaum et al. (2014) explains that social media can provide an outlet for support, a sense of not being alone, and coping mechanisms. It is also a place where users can exchange thoughts and opinions during the crisis (ibid., 2014). Similarly Alexander (2014) explains that individuals who are informed and up to date with the events and details of the crisis tend to feel more optimistic for the future (Alexander 2014). Since not only opinions are shared on social media during a crisis, but also information. Therefore the sharing of news and information on social media can in some ways compete with the traditional media. Simon (2015) explains that social media sites such as Twitter or Facebook are growing tools when it comes to disaster response. Due to this there is a shift in user habits, so not only the individual user share news and information on social media, but also authority and organizational actors (Simon 2015).

Reuter and Kaufhold are using the term ‘crisis informatics’ when dealing with social media in a crisis situation, and their study examines different usage patterns as well as role
patterns. Different users often have different roles and interact differently. For example, individuals can turn to other individuals for support, or authorities can share information via social media in order to prevent accidents or to provoke cautious behaviour by the citizens. In similar ways authorities can communicate with other authorities, and the use of information sharing on social media can provide useful for authorities (Reuter 2017).

Another study looking at users and uses is “Social media and disasters: a functional framework for social media use in disaster planning, response, and research” by Houston et al. The framework presented focuses on ‘how’ and ‘by whom’ social media is used during crisis in order to better be able to implement tools and better study disaster communication. Five categories of users and fifteen usage areas were established. The concept of a two-way communication allows all the users of social media to also be producers of information (Houston 2015). This framework will be tested in this study on the case of the current water crisis in Cape Town where citizens suffer the consequences of drought and water scarcity (Mauck 2017).

2.2 Users and Usage Framework

The main framework for this study is provided by Houston et al. (2015), a framework that highlights important categorizations within disaster social media. During a crisis it is important to stay updated for safety reasons, and there are many aspects of social media that are beneficial in such a situation. First of all it does not cost much to communicate virtually, and it is a transportable and mobile type of networking. It is also fairly uncomplicated to use, and one can use it to reach a large scale audience globally. Disaster social media is used for different reasons; as a response, in order to plan and prevent, or for researchers who are interested in disaster communication (Houston 2015 pp. 1-4).

The users and usage framework states that this communication is being used by five identified groups of users (individuals, communities, news media, organizations, and governments), and through fifteen different usage areas. Thanks to the two way type of communication that defines social media, the same categories of users are also able to act as producers of information. It is important in this research to define guidelines for who these users are. Individuals are citizens, affected by the crisis or outside observer of the crisis. Local and international. However, individuals that are involved with the government,
organizations, or media coverage will be regarded as representatives. Communities are groups that share a common, yet are not established like an organization. News media represents traditional media, new media, or entities with the intention to solely share information. Organizations in this research range from institutions, foundations, volunteers, Non governmental organizations, activist groups, and similar. Governments here are representatives, departments, politicians, or members of state or federal agencies (ibid., p.7).

The fifteen usage areas will be provided in the table outlined in the following section, as well as details on how Houston et al. (2015) describe them. Additionally, three phases are provided to timeline the uses.

2.2.1 Framework Functions Table

<table>
<thead>
<tr>
<th>Disaster Social Media use</th>
<th>Disaster phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide and receive disaster preparedness information</strong></td>
<td>Pre-event</td>
</tr>
<tr>
<td>Connections between different actors on social media can help prepare for the event.</td>
<td></td>
</tr>
<tr>
<td>Through social media the message is more likely to find individuals not looking for</td>
<td></td>
</tr>
<tr>
<td>information regarding a crisis, thus unintentional yet positive spreading can occur.</td>
<td></td>
</tr>
<tr>
<td><strong>Provide and receive disaster warnings</strong></td>
<td>Pre-event</td>
</tr>
<tr>
<td>Disaster organisations can use social media platforms to provide warnings. The chance</td>
<td></td>
</tr>
<tr>
<td>of spreading via re-sharing is high, also people can even stay connected via mobile</td>
<td></td>
</tr>
<tr>
<td>phones.</td>
<td></td>
</tr>
<tr>
<td><strong>Signal and detect disasters</strong></td>
<td>Pre-event -&gt; Event</td>
</tr>
<tr>
<td>The spreading of disaster information and warnings might move faster than the actual</td>
<td></td>
</tr>
<tr>
<td>disaster when shared on social media. Mapping and tracking tools might develop.</td>
<td></td>
</tr>
<tr>
<td><strong>Send and receive request for help or assistance</strong></td>
<td>Event</td>
</tr>
<tr>
<td>Social media can sometimes be more reliable or reachable than emergency response</td>
<td></td>
</tr>
<tr>
<td>organizations during a crisis.</td>
<td></td>
</tr>
<tr>
<td>**Inform others about one’s own condition and location and learn about a</td>
<td>Event</td>
</tr>
<tr>
<td>disaster-affected individual’s condition and location**</td>
<td></td>
</tr>
<tr>
<td>Social media can be used to send messages to loved ones stating their safety, or vice</td>
<td></td>
</tr>
<tr>
<td>versa. Organizations could post lists of people declared safe in a crisis.</td>
<td></td>
</tr>
<tr>
<td><strong>Document and learn what is happening in the disaster</strong></td>
<td>Event -&gt; Post-event</td>
</tr>
<tr>
<td>Here social media can mediate a bridge between citizens and authority to document</td>
<td></td>
</tr>
<tr>
<td>information and impacts. Besides, the people experiencing the crisis might withhold</td>
<td></td>
</tr>
<tr>
<td>more information than traditional media. This requires caution around false information</td>
<td></td>
</tr>
<tr>
<td>and rumors.</td>
<td></td>
</tr>
<tr>
<td><strong>Deliver and consume news coverage of the disaster</strong></td>
<td>Event -&gt; Post-event</td>
</tr>
<tr>
<td>This function is similar to the one stated above, however seen from a journalistic point</td>
<td></td>
</tr>
<tr>
<td>of view.</td>
<td></td>
</tr>
<tr>
<td><strong>Provide and receive disaster response information, identify and</strong></td>
<td>Event -&gt; Post-event</td>
</tr>
</tbody>
</table>
list ways to assist in the disaster response
After the information about the crisis has been spread, actors look for ways to help, and social media can help identify the needs.

| Raise and develop awareness of an event; donate and receive donations; identify and list ways to help or volunteer |
| Social media can assist with awareness rising and create motivation for donation. Additionally, the more background information about the crisis that is found on social media, the likelier volunteering and support help is. |
| Event -> Post-event |

| Provide and receive disaster mental/behavioral health support |
| People that are affected by the crisis can connect with each other, or concerned outside individuals. Connectedness and support can be provided. |
| Event -> Post-event |

| Express emotions, concerns, well-wishes; memorialize victims |
| Social media can act as a coping mechanism, and also to facilitate needs to memorialize, tribute and show empathy. |
| Event -> Post-event |

| Provide and receive information about (and discuss) disaster response, recovery, and rebuilding; tell and hear stories about the disaster |
| Here social media can create a space for people to engage in information and conversations even after the crisis had culminated. Traditional media might be interested in more urgent news. |
| Event -> Post-event |

| Discuss socio-political and scientific causes and implications of and responsibility for events |
| This use can help to discuss the reasons and causes for the crisis, and process. However this function is not always positive and can cause arguments and segregation. |
| Post-event |

| (Re)connect community members |
| After a crisis, connections can be made through social media, either reconnect members of for example a community, or create new connections. Storytelling, discussions or event planning might be connecting mechanisms. |
| Post-event |

| Implement traditional crisis communication activities |
| When the crisis is over there might be a need to repair or influence the public opinion. Through social media authority actors may hear the opinions of the citizens in order to improve image. |
| Post-event |

Source: (Houston et al. 2015).

The framework will be tried out with a selection of tweets from Twitter, retrieved by selected hashtags relevant to the case study of the South African water crisis. The following section will investigate what previous research can tell about the framework.

### 2.3 Previous Research on the Framework

When searching for reviews on the users and usage of social media framework on Google it proved somewhat challenging to find either criticism or positive feedback, however the
The framework proposed by Houston et al. was cited 135 times on Google Scholar. For this research, 59 of them were examined to find out in what way other scholars have used the framework proposed. The remaining 76 articles were discarded either due to lacking relevance on the topic of disaster social media, access difficulties, they were written in a different language, or the citation was made by the authors of this framework but in a new text. 52 out of the 59 articles examined were discarded since the only referencing they did towards Houston et al.’s text was in the literature review, or for general knowledge regarding social media. Additionally, seven of the articles did mention the framework in a more elaborate way, and some authors attempted to use parts of the framework presented. Three of the studies positively describe the framework by Houston et al., stating the benefit of the framework or call it promising (Abedin & Babar 2017, Anson et al. 2017, Johnson et al. 2017). The remaining four studies used the framework presented by Houston et al in different ways. Mukkamala and Beck created their theoretical lens by combining Houston et al.’s framework with another framework that focuses on disaster management phases. Four management phases were created and a selection of Houston et al.’s usage areas were placed in the different categories, in order to create a theoretical framework of their own. Although their focus was rather on humanitarian organizations and their response (Mukkamala & Beck 2016). Similarly, Eismann et al. use the framework as a coding scheme and adapted the structure according to characteristics proposed by another research, with an aim to investigate collective behaviour on social media (Eismann et al. 2016). De Swaef used the framework in the context of nuclear emergency management. The author provides the original framework and how it was successfully adapted to the study (De Swaef 2016). The study using the most of the original framework is the one written by Takahashi et al. The framework was refined to fit the context of a case study, regarding a natural disaster in form of a typhoon, and the main focus of analysis was data retrieved from Twitter (Takahashi et al. 2015).

These previous uses of the framework by Houston et al. show that the framework is not only usable, but easily modified or adapted. Even the authors themselves encourage researchers to integrate, compare, and disassemble the framework whatever way beneficial for new studies (Houston 2015, pp.16-17).

2.4 Theory of Planned Behavior
The findings found with the help of Houston et al.s’ framework will be displayed in chapter 5, and analysed in chapter 6. In order to examine the findings in a behavioral manner, the theoretical lens of the Theory of Planned Behavior (TPB) was chosen.

TPB was created by Icek Ajzen (1991) as an extension of the Theory of Reasoned Action, which he participated in establishing. The contrast between the two lies in the ability of behavioral control (Chang 1998, pp.1825-1826). TPB has three central explanations for an individual’s behavior; attitudes, subjective norms, and perceived behavioral control. The attitudes comes from the beliefs and emotions that the individual has towards the behavior, positive and negative associations can easily build up around certain behaviors and these will influence future behavior. The subjective norms relies on the individual’s perception of what other people believes about a certain behavior, the importance of approval will help determine the behavior. The perceived behavioral control evaluates the consequences of the behavior according to outcomes and efforts. One can weigh in previous experiences, or the level of difficulty that lies behind the behavior (Ajzen 1991, pp.189-196).

The idea to investigate individuals’ intentions and behavior is motivated by the desire to explain or predict behavior. The present amount of intentions, motivations, and willingness will determine how the behavior is acted (ibid., pp. 180-181).

### 2.5 TPB and Social Media

Many scholars using TPB when investigating people's’ use of social media end up conducting studies based on questionnaires and surveys, especially with students or young adults as participants. It seems common to adopt a full version of the theory and add or highlight certain behavioral traits or emotional aspects (Baker & White 2010, Chang & Zhu 2011, Jafarkarimi et al. 2016, Kim et al. 2016, Pelling & White 2009). The topics of investigation varies from young people’s use of social networking sites (Baker & White 2010, Pelling & White 2009) to more specific social media functions (Kim et al. 2016), or ethical dilemmas online (Jafarkarimi et al. 2016). Even behavior regarding pre- and post- usage of social networking sites (Chang & Zhu 2011).

Finding the combination of social media use during a crisis, and TPB proved difficult, however Najafi et al. (2017) used the theory when examining disaster preparedness behaviors. The aim was to broaden the understanding of preparedness behavior. Also here the
questionnaire method was used (Najafi et al. 2017).

Relative to this case study regarding water scarcity, Lam (1999) wrote a study on TPB and preservation of water in Taiwan. Here the theory was combined with perceived moral obligation and perceived water rights. The feeling of obligation toward saving water might clash with the right and entitlement of water usage. Although the perceived moral obligation proved difficult to prove by correlation, the basis of TPB were successfully used in the study (Lam 1999).

3. Methodological Framework

3.1 Collecting Data

In order to examine the different usage areas of disaster social media, peoples’ opinions will be examined through the social media platform Twitter. There is a function on the Twitter website that allows for an easier search. One can filter certain keywords, hashtags, accounts and dates on the website in order to obtain and read tweets. During this research this function was used multiple times, mainly through searching for different hashtags. The reason for only using hashtags and not search words was to narrow down the search, due to time constraint. Besides, for an individual to use the hashtag function states an intention of spreading the message more than just including the word in text.

3.2 Analysing the Data

The collected Twitter data was analysed within the framework of users and usage of social media provided by Houston et al. (201), and the theoretical lens of Theory of Planned Behavior (TPB) by Azjen (1991), will be added additional depth to the analysis. The relevant tweets were saved and the less relevant or repetitive ones were discarded. An online tool called Twitter Archivist will be purchased and tried in order to broaden the analysis further.

3.2.1 Twitter Archivist
Twitter Archivist is an online program that will create statistics out of tweets from Twitter. There are certain features to help you customize your search, such as date periods. The tool is a paid feature ($14.99-$19.99) and allows the user to create three data archives per month using different search words. There might therefore be a need to clean out the results that does not go inline with the desired topic (Lockyer 2014, p.73).

4. Background

4.1 Water scarcity

Studies show that water scarcity is a large posing threat to the global population (Mekonnen & Hoekstra 2016, Vörösmarty et al. 2000). Climate change is one of the drivers of alternation of water (Haddeland et al. 2014, p.3251), however not only humans are under threat, but biodiversity and animals similarly, meaning that water scarcity measured for humans might cause an underestimation of the actual problem. Our living standards today combined with population growth and increased consumption habits have added to the demand for natural resources, such as consumable water (Mekonnen & Hoekstra 2016). Besides, we humans have used and disturbed the natural dynamics of water for our consumption, with the help of dams, basins etc. In some places on earth, direct human interaction with water systems can even have larger impacts than climate change (Haddeland et al. 2014, p.3251). These water supply impacts can lead to future water service and infrastructure issues, and when new inventions and technology are needed economic consequences will likely follow. Research also show that developing countries and rapidly growing urban areas are most likely projected to experience future water scarcity (Vörösmarty et al. 2000, p.287).

4.2 The Water Crisis in Cape Town

South Africa is a country suffering from water stress and scarcity. The whole country suffers
from low rainfall levels and often high rates of water evaporation. However, the fast growing urban areas are more at risk, especially the west coastal areas tend to receive less rain, like Cape Town (Mauck 2017). The way water is distributed throughout the country is via a system of dams and reservoirs combined with relocation and transportation, although Cape Town additionally uses some groundwater supplies. The climate of the region creates a dependency on rainfall during the winter season, that will act as a supply throughout the year. Since the distribution of rain falls are not even throughout the country, Cape Town is in need of good working water management systems (Ibid., 2017).

Already in the 1970s the city experienced water restrictions almost annually, acting like the frequent short term plan while waiting for winter rains to replenish the water supplies. Although when the rain arrives with a heavy flow it is common that these water supply bases will overflow and cause flooding (Sorensen 2017, p.517). Estimates made in 2007 by the Department of Water Affairs predicted a need for interventions of the water system, in order to avoid any future water restrictions, however real concerns about critical water shortages were raised in 2015 (Muller 2017). In early 2017 Cape Town were under water restrictions of level 3 to decrease consumption levels. Not only Cape Town had these restrictions, other South African cities like Johannesburg are often also scarce on water (Sorensen 2017, pp.515-516). In January of 2018 the mayor in Cape Town announced that the city had reached a critical stage. It was announced that the so called “Day Zero” would be April 12th (Maxmen 2018). Day Zero constitutes the day when the citizens of Cape Town could lose access to their piped water. If the crisis had still been as critical at this point the people would be obligated to queue for daily small amounts of water (25 litres) (Burke 2018). In early February this year, Day Zero was predicted to be 16th of April 2018. Even though the government had previously opted for a 87 litre ration per person per day the efforts by the citizens had not met the demands, leading to further cuts in water limits to the recommended 50 litres in a day (Holder & Kommenda 2018). Therefore, the restriction level 6B was implemented (Head 2018). The water restrictions were not only for the citizens, thus farmers, companies, and hotels were cutting consumptions. Commonly restaurants stopped serving tap water, and bottled water was scarce in stores and supermarkets (Burke 2018).

Researchers highlight the long term growth levels as part of the problem. The population growth had been exponential compared to the increase of water storage. Other factors such as economic development, urbanisation, lack of water management investment,
as well as a lacking long term plan has helped to induce the water crisis (Burke 2018, Holder 2018). Since the warnings of water shortage has been dated back throughout several years the government has received heavy critique, and concerned citizens wished the government would have better notified about a potential crisis years ago (Burke 2018, McKenzie & Swails 2018). Heavy restrictions and raising the price of water are not long-term solution to the problem. An alternative solution could be to treat wastewater to reboost the freshwater with. Additionally there is a desalination plant outside of Cape Town in Mossel Bay, however it is expensive to run due to its electricity requirements (Sorensen 2018, pp.519-523).

4.3 The Socio-political landscape in Cape Town

South Africa has a history of western colonization and racial discrimination with the apartheid segregation. The British settlers brought social Darwinism and capitalism to the society where segregation was present, however some African regions remained autonomous and the two existed side by side. With the Dutch settlers came the scientific racism and thoughts about biological superiority that formed apartheid (Marks & Trapido 2017, pp.2-6). The constitution was reformed in 1984, yet the real end to apartheid came 1991. Although the state had been legally ridened, the discrimination, cleavages, and inequalities remained within the state and policy structure (Sisk 2017, pp.7-10). These features of segregation still play a role in the everyday life of South Africans even though the country is now democratic. Some say it is a history that cannot be overlooked, others are optimistic for a new inclusive society. Thus both black and white citizens are still weighed down under the historical burden (Butler 2017, pp.2-3).

The first democratic election in 1994 announced the African National Congress (ANC) winners, and Nelson Mandela president. A year later the Truth and Reconciliation commission passed legislation in favor of amnesty. The following years facilitated waves of sexual and gender based violence, and increase of HIV outbreaks. Numerous white citizens left the country, a black elite was forming, and there were existing questions regarding identity (Crais & McClendon 2013, pp.473-474). Additionally, the country’s economic improvement has been lacking, as well as the labor market, leaving the citizens discontent with the government (Butler 2017, p.72). The president of eight years, Jacob Zuma, stepped down in February this year after governmental pressure and was replaced by Cyril
Ramaphosa, both members of ANC. Whilst Zuma was accused of practicing inline with a patronage system, Ramaphosa is openly pro transparency (Taylor 2018).

Cape Town, however, is more influenced by the provincial government of the Western Cape, that cooperates with the national government. Helen Zille is the premier of the provincial parliament and works under the constitution of 1998, specially designed for the Western Cape (Western Cape Government 2018). Zille is also part of the Democratic Alliance (DA), which is an opposition party to the ANC and claims to be a liberal party of no racism. Therefore the decisions taken in Cape Town are influenced by a different party than the national government (Southall 2014, pp.86-88). The DA and the mayor of Cape Town, Patricia de Lille, have recently been involved in dispute. De Lille who is part of the DA has stated that she will leave the party due to its passive approach to corruption activities within the council, in return the party demands her stepping down as mayor (Reuters 2018).

The socio-political landscape of Cape Town will be important for this study, since governance is different from the whole country, and the ruling party might have other views on water resources than the central government.

### 4.4 The end to the Crisis

With the country’s historic background and the socio-political state of the city in mind, the water crisis has highlighted the cleavages between the rich and poor communities in Cape Town. Some communities already had lacking water access before the crisis (McKenzie & Swails 2018). The efforts made by the government to pressure the society to conserve water has pushed people into reusing their water from for example showers, and not flushing toilets after every visit. The 50 litre recommendation is still current situation. The agricultural sector has assisted with the cut back and water donations, yet some farmers had to quit entirely with their activities (Mahr 2018). As of 6th of May the Day Zero crisis officially ended with an announcement from DA leader Mmusi Maimane, stating that the taps will remain open (Head 2018). Nevertheless, the collective efforts to save water has only pushed the date of Day Zero yet again, this time to 2019. Even if the crisis may seem diverted, the water scarcity issue is still highly relevant (McKenzie & Swails 2018).

One can say that the immediate crisis is over, however the water supply levels are still low, and the weather remains unpredictable. The citizens need to maintain the frugal water
usage in order to keep Day Zero away. In the meantime there are many ideas on better long term solutions for the water scarcity under evaluation (Mahr 2018).

For this research the 1st of January will act as the beginning of the crisis and the 6th of May as an end to the crisis, even if the water issues still remain.

5. Findings

In this section findings will be outlined before being more thoroughly analysed in chapter 6.

5.1 Tweet Selection

The selected hashtags for the analysis were selected in a spontaneous matter, starting with #DayZero. This hashtag was selected since it had been a common slogan in the news media when referring to the crisis, giving a hint that it could be popular on social media as well (source). The following hashtags; #CapeTownWaterCrisis, #CPTWaterCrisis, #CapeTownDrought, #50litreLife, #DefeatDayZero, #ThinkWaterCT, #WatershedWednesday, were then selected based on their recurring in posts already using the hashtag DayZero. One might define that as a snowball effect. The hashtags all vary in popularity, yet all provided substantial information for the analysis. Additionally, #DayZero started at the announcement of immediate crisis, creating a need for a hashtag that could provide opinions pre-event.

The total number of tweets selected for analysis estimated 260, and these tweets often contained more than one of the above hashtags used in the analysis. The dates when these tweets were posted range from 29 Dec 2016 - 13 May 2018. The table below shows how many times each hashtag occurred in this research.

<table>
<thead>
<tr>
<th>Hashtag</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>#DayZero</td>
<td>159</td>
</tr>
<tr>
<td>#CapeTownWaterCrisis</td>
<td>57</td>
</tr>
<tr>
<td>#CPTWaterCrisis</td>
<td>23</td>
</tr>
</tbody>
</table>
5.2 Users and Usage Framework for analysis

The first adaptation done to the framework by Houston et al. (2015) was referring to the case as a “crisis” instead of a “disaster”. This was done due to the impression that a disaster could be rather represent a natural disaster. Besides, on Twitter and news media it was common to refer to the Cape Town water problem as a crisis, hence the titles of the hashtags. Although the intention is to keep as much originality of the framework. This can however be problematic, when considering that a change in the terminology can imply that the framework should be used only for a disaster situation. The intention of using this framework then shows that maybe a similar type of framework could be created for a crisis situation, similar to the case of this study.

Another change was to alter the usage area; discuss socio-political and scientific causes and implications of and responsibility for events, as occurring both during the event an post-event on the timeline. Since the duration of the crisis lasted circa three months, the social media actors had plenty of time to share their thoughts and opinions regarding the reasons and responsibilities related to the crisis before the announcement of Day Zero being pushed to 2019.

The inform others about one’s own condition and location and learn about a disaster-affected individual’s condition and location usage area of the framework was slightly altered to referring to tweets sharing one's condition, or sharing somebody else condition. Since many of the highly affected people in poor neighborhoods might not have access to Twitter where they can express their struggles, their stories are often shared by other users.

Some of the tweets selected were clearly posted by individuals, however after closer examination of account these individuals proved to be leaders of organizations or politically
active. Stating that their opinions or objectives could be newanced. Thus each of these cases have been evaluated in order to either be categorized as *individuals, organizations, or government*. The same stands for journalists, columnists, and reporters. Each case have been evaluated and interpreted either as individual opinions or front figures for their profession. In this study some Twitter accounts created as travel agencies or tourism departments have been categorized as *community or government*.

5.3 Findings from the Framework

*Provide and receive crisis preparedness information. (Pre-event).*

Similar to the way Houston et al. describes this function, in this case information about the crisis was shared before the announcement of Day Zero. From this study, the earliest tweet found using these hashtags dates back to December 2016, when an individual decided to share a picture of their dry lawn and using #CapeTownDrought (#225). Ten tweets in total of all the collected ones fit the description, and as the table below indicates, majority were individuals. One media actor publicly asked people with a poll whether the drought could have been handled in a better way. 75 percent of the 219 voters replied “Yes”, and 25 percent voted “No” (#188).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>7</td>
<td>-</td>
<td>1</td>
<td>2</td>
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</tr>
</tbody>
</table>

*Provide and receive crisis warnings (Pre-event)*

Not many tweets out of the selected were used as a crisis warning, however a media actor informed in a tweet that the government had the intention to establish stricter restrictions on water. This was posted in July 2017 (#186). An organization also shared a link with information on what could happen if the city of Cape Town would run out of water, in Feb 2017 (#234).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
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<tbody>
<tr>
<td>5</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>1</td>
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</tr>
</tbody>
</table>
Signal and detect crises (Pre-event)

One tweet was collected for this function regarding crisis spreading tools, from an individual in Cape Town who created a water monitoring and information sharing website as new project in October 2017 (#232).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
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<tr>
<td>1</td>
<td>1</td>
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</tbody>
</table>

Send and receive request for help or assistance (Event)

The function of directly asking for help was not often found amongst the tweets. One individual asked for inventions and ideas on how to increase the compliance of the citizens to lower water usage (#36). A capetonian posts demands for information that the citizens have not yet received regarding the water rationing come Day Zero, and asking politicians what people should do about their jobs (#63). Therefore, in this research the help requests where for information rather than physical help.

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
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<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>-</td>
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</tbody>
</table>

Inform others about one’s own condition learn about other crisis-affected individuals’ condition (Event)

There are three major categories of conditions informed within this function. Majority shared information about poor communities or black people that has lived in a Day Zero situation for a long time, believing that they deserve recognition (#29, #39, #47, #102, #103, #124, #131, #164, #166, #207). Some shared stories about crises similar to Day Zero in other countries and cities (#11, #40, #73). Capetonians also shared information about their own situation during the crisis (#192, #205).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
</table>
Document and learn what is happening in the crisis (Event - Post-event)
The difference between documentation and learning, and basic sharing news is that the actors are more engaged and active in the message, not only trying to distribute information. For example a community group tweeted that other places in South Africa are being told to be careful when sending water to Cape Town to not create their own crisis, and that water tankers have been stopped trying to drive water to the city. The information is followed by questioning; “Is this just the beginning?” (#108). Additionally the City of Cape Town tweeted a link and description on how to calculate Day Zero (#125).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>14</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Deliver and consume news coverage of the crisis (Event - Post-event)
Sharing news on social media in this case has been common for media actors and government actors. The DA, Mmusi Maimane and the Defeat Day Zero movement has contributed to five tweets (18, #83, #85, #89, #151) during this research, where information about Day Zero has been postponed is shared.

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>3</td>
<td>1</td>
<td>18</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

Provide and receive crisis response information, identify and list ways to assist in the crisis response (Event - Post-event)
The tweets related to assist during the crisis response aim to share solutions, suggestions, motivation, and ideas on how to stop or prevent the crisis. It involves everything from individuals sharing their saving water beauty routines (#59), to guidelines for keeping the water restrictions (#112), or using timers in the shower, especially at hotels (#76).
Raise and develop awareness of an event; donate and receive donations; identify and list ways to help or volunteer (Event - Post-event)
Organizations can use social media to promote their assistance initiatives (#72, #121), or individuals might share links and descriptions of donations they feel emotional about (#141).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

Provide and receive crisis mental/behavioral health support (Event - Post-event)
There are different ways to receive mental support, in this case individuals might feel the need to ask for advice or a discussion (#56), or asking people of they have realized the way the water crisis can spark appreciation and provide a new perspective on life (#139).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
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<tbody>
<tr>
<td>6</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>2</td>
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</tr>
</tbody>
</table>

Express emotions, concerns, well-wishes; memorialize victims (Event - Post-event)
There were several emotions identified within this function such as; appreciation (#4), discontent (#26), concern and hope (#41, #43, #145, #173, #191), fright (#64), and thankfulness (#197).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Provide and receive information about (and discuss) disaster response, recovery, and rebuilding; tell and hear stories about the disaster (Event - Post-event)
Throughout this function
stories about what can happen in the future (#10), what could be learned from other drought situations (#15), that the crisis needs to be depoliticized (#32),
Saying that efforts are too late (#38), that when hearing about the crisis 20 years ago it should have been taken seriously (#81), reports about thirsty school children (#120), or child that brought grey water to school in order to save water (#127).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>-</td>
</tr>
</tbody>
</table>

Discuss socio-political and scientific causes and implications of and responsibility for events (Event - Post-Event)
This function has provided critique and questioning of the government, and the reasons for why the crisis happened. For example #8 by an individual considers if the whole crisis had been fake and made up by the government, or that the driver of the water crisis was not really the drought, but rather political reasons (#128). Others defend the government, writing that they have attempted to tackle the water scarcity years prior (#55).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

(Re)connect community members (Post-event)
Tweets regarding visions of Cape Town and the citizens to work together in order to avoid Day Zero have been seen amongst the selected tweets, however only one tweet showed a vision of really connecting the community. #119 was shared by a sports team that provided posters promoting 50 litre a day restrictions, and calls for everybody to work together. This will in this study be considered as more of a real initiative.

<table>
<thead>
<tr>
<th>Total Tweets</th>
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<tbody>
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<td>1</td>
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<td>1</td>
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</tbody>
</table>
Implement traditional crisis communication activities (Post-event)

As the framework indicates, this function can provide space for image restoring and changing public opinion, as well as facilitate discussion post crisis. For example, an organization claiming that Day Zero has turned from being a crisis to an opportunity (#7), or a tweet shared concerning why people should, despite the crisis, travel and visit Cape Town (#147). Additionally, tweets regarding local government being concerned that after Day Zero has been moved to 2019, people will not continue to save as much, where posted (#118).

<table>
<thead>
<tr>
<th>Total Tweets</th>
<th>Individuals</th>
<th>Communities</th>
<th>Media</th>
<th>Organizations</th>
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<tbody>
<tr>
<td>7</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

46 tweets out of the 260 examined for the framework were considered not applicable to the framework for different reasons. Some tweets were posted by companies or corporations, which did not really fit with the five user categories of the framework. Or the posts were to distant from the crisis, or simply did not apply to any of the fifteen functions provided. Again this could be related to the concern regarding the changing of the terminology of the framework. Yet also contributes to the incentive to create a new similar framework for a crisis situation.

A transcripts of the selected tweets, with their details and sources, will be provided in the annex, as well as a categorization scheme that lay basis for the tables presented in the findings chapter.

5.3 Twitter Archivist

The Twitter Archivist tool was added to the analysis to investigate if it would assist the analytical framework. The tool was purchased and activated on 2018-05-19, the tool allows for a time range of ten days. Meaning that the tweets collected came from the 2018-05-09 - 2018-05-19 timeframe. The three following hashtags were chosen for the archives: #CapeTownWaterCrisis, #CapeTownDrought, #DayZero. The CapeTownWaterCrisis hashtag was chosen since it is such a specific hashtag that represents the crisis, the
CapeTownDrought hashtag was selected to get a different perspective on the crisis, without labeling it as a crisis, and the DayZero hashtag was chosen due to the large number of tweets being shared under that hashtag. Besides, the DayZero hashtag was the initial one used in the selective data process.

5.3.1 #CapeTownWaterCrisis

The data derived from the CapeTownWaterCrisis hashtag will be shown in the image below created as a collage of graphs collected from the archivist tool. The tool also provided other information that was discarded due to lack of relevance to this research.

The data shows that this tweet was posted 103 times over social media, and 73 times over twitter during the ten day timeframe. A pie chart indicates that the languages used was in 98 cases English. The tool also provides a volume chart to pinpoint certain dates the hashtag was popular, and the impression feature - indicating how many times the hashtag has been scrolled by in a feed and possibly read. The number of impressions from the CapeTownWaterCrisis hashtag occurred 260,077 times. Additionally one can get information about other hashtags or popular words used in the posts where the chosen hashtag occurred. For example; #capetown, #savewater, #water, “watercrisis”, and “latest”, being some of the major ones.
5.3.2 #CapeTownDrought

This hashtag did not provide much data, sixteen tweets to be more precise. Although, these 16 tweets were scrolled by 84,156 times. The language of all sixteen posts were English, and some other hashtags and words used in these tweets were: #watercrises, #savewater, “solution”, “drought”, and “save Cape Town”. The small number of tweets collected might not provide a large picture of the scope of this hashtag, however it does show some relevance to the crisis when you combine the wordings and hashtags also used together with #CapeTownDrought.

5.3.3 #DayZero

The data from the hashtag DayZero was only somewhat useful for analysis. When creating an archive 1,104 tweets appeared, within the timeframe of the ten days provided. The main observation was that only 517 of those tweets were written in English, whilst 553 of them were written in Japanese, indicating that the hashtag in Japan possibly is used for something else. This makes it hard to interpret the data from this archive. However, amongst the
common hashtags used in a post written with #DayZero, one can find other hashtags such as: #capetown, #watercrisis, #southafrica, and #waterconservation. Indicating that possibly the tweets posted in English were connected to the actual crisis.

6. Analysis

The framework of users and usage areas by Houston et al. (2015) was tried on the case study of the Cape Town water crisis, that lasted for circa three months time. Not all tweets collected from Twitter did fit within the framework usage areas, 214 tweets were used and 46 tweets discarded for various reasons. However the framework did highlight disaster situations, and this case study is a water scarcity crisis. Whereas this research focused on a protracted water crisis rather than a natural disaster or similar. Therefore some of the usage areas were not very important for analysis. For example, the (Re)connect community members function only occurred one time amongst the analysed tweets. When reflecting on why that is one can assume that during a natural disaster, people might have to pursue evacuation or other relocation arrangements, which could lead to family or community members becoming separated.

Additional usage areas that did not receive much representation were the ones used pre-event, maybe due to the fact that the water scarcity issue had dated back for such a long time, it could have been difficult to have an immediate pre disaster warning. Besides, as outlined in the de-limitation section, the tweets that have not used any of the selected hashtags could have provided a different result. The earliest tweet used for this research was posted on 29th December 2016 (#225) and was found through the hashtag #CapeTownDrought. This was one year prior to the Day Zero announcement, and the selected start of crisis for this research. Therefore one can assume that the struggles of water scarcity indeed had been present for quite some time before the actual Day Zero crisis.

The usage function of Provide and receive crisis mental/behavioral health support did get a few tweets in the finding chapter, but on a second observation this function might have been used more frequently during a natural disaster and such. If one considered that a natural disaster might contribute more to chock or other trauma. The tweets that did get
analyzed as fitting to this function were rather looking for discussion than direct support (#56), or perhaps some sympathy (#127).

Regarding the five actor categories of the framework, they could all be found in the research. Although, one actor group to add could in this case could be companies/corporations. Some tweets were found posted by restaurants, hotels, innovation companies, or other actors that would like to promote their business or advertise themselves via the crisis using hashtags from the crisis. This is possibly a result of a planned behavior in order to spread their message as far as possible. Yet some concerns with adding companies as a separate actor group within the framework could potentially create a need for new usage areas as well, regarding promotion or similar. This might also be relevant for bloggers, or professional photographers, yet they can be categorized as individuals, which might be problematic. However, the level of promotion done by these actors is probably used in order to gain a spreading of their content on social media. This could of course be of monetary reasoning like for companies, although an individual exposing themselves on social media in this matter are still human beings. In this research tweets that are made by individuals that are sharing a post do promote themselves or their business. These tweets were left out of the framework. #220 made by CEO of Unilever for example, explained a new water saving toilet spray innovation, but it seemed like the motivation behind the post was to sell the product, therefore it was discarded from the framework.

It was clear when going through the tweets that many people critique the government in their tweets that got categorized in other usage areas. Even if the main message of the tweet was selected as another usage area of the framework, it was still common to find some comments about the governmental performance.

The group governmental actors did not occur in many framework usage functions, in fact only in six out of fifteen. The functions they had some higher presence in were Implement traditional crisis communication activities and Deliver and consume news coverage of the disaster. Majority of times where the Cape Town politicians were represented it was with in the latter function mention, where they posted information about the crisis or push backs of the Day Zero. Using either #DayZero or #DefeatDayZero (#18, #83, #85, #89,
It is difficult to determine if this is a coincidence for this research or a pattern, since these actors could post tweets with other hashtags or no hashtags. When reflecting over the TPB a reason to not post a lot on social media could be due to the aspect of subjective norms, and being concerned about what the readers of the tweets would think about the behavior and content. Perhaps previous experiences with oversharing or receiving a lot of critique could play a role for the perceived behavioral control and determine the efforts being larger than the outcome (Ajzen 1991).

The Twitter Archivist tool did not live up to expectations. The tool was great to perform the actual data gathering, however the features provided were not really downloadable. That is why, in this study, the few charts presented in the Twitter Archivist section are made manually by printscreens and an imaging program. Additionally, the feature of only receiving data from ten days prior was unexpected. If one would to be use the tool for other research it would be recommended to start early, since one is allowed to collect over longer time, just not obtain data earlier than ten days before subscription. This left the data received for this research a little thin, since the crisis had already ended at the time of subscription. However it did bring an extra dimension of investigation of the tweets and the hashtag landscape, for example indications that #DayZero was most commonly used of all the collected hashtags. This was also the case in selection of tweets for the framework analysis. Perhaps since the slogan and notion of Day Zero being a dramatic point during the crisis, which would indicate the loss of tapped water resources for the citizens.

When considering the behavioral aspects and motivations of Ajzen’s (1991) TPB one can assume that using hashtags in general is a great way to share one's opinion with a larger crowd. If the attitude towards social media networking, and the right levels of surrounding subjective norms are positive. Then the perceived behavioral control should be the determiner when deciding to post the tweet. If then the concluding question regards if the tweet will receive enough attention or not, and if it is worth the effort, then using a hashtag could motivate the decision since the tweet will be more likely to be seen by other people (Ajzen, 1991)

7. Conclusion
This study analysed qualitatively *Why people turn to social media in a crisis?* This did not aim to find social media as a solution for a crisis, but rather try to investigate behaviours. Subsequently to this, this research investigated, *In what way different social media users use social media during the current water crisis in Cape Town?*

This research on social media in a crisis situation is a qualitative desk study examined through an abductive process. Although this study will be focused on the case study of Cape Town, the examination of social media is studied over the internet. This will not create a need for field research. The goal is to better understand the use and value of social media during a crisis. Additionally to test the framework provided.

The topic of Social Media as Crisis Response was studied thought the framework of Users and Uses of Social Media created by Houston et al. (2015) was in this study tested on a case study. The water crisis in Cape Town, South Africa. The disaster framework they had established are categorized in fifteen usage areas, which are distributed over different phases of the disaster. Five user categories were used for the study; individuals, community, media, organizations, and government (Houston et al. 2015). The framework had been tested a few times prior to this research, and adapted to fit the other research topics (Eismann 2016, De Swaef 2016, Mukkamala 2016, Takahasi 2015). Even in this study some alterations were done while retrieving the findings and placing them in the framework, for example using the word crisis instead of disaster. By doing this some concerns with the framework’s ability to adapt to a crisis situation occurred, together with thoughts regarding the need for a separate framework for the type of crisis situation that has been used in this study.

Something that was added to the framework was the ability to discuss causes and responsibilities also during the event of the crisis and not only post-event. The usage area called *Inform others about one’s own condition and location and learn about a disaster-affected individual’s condition and location* was changed to only refer to conditions and not locations since it was unnecessary for this case, and stating that it could be shared by others than the affected due to the socio-political state of the country. With large economic cleavages that could indicate that the poorest and highly affected people of the water crisis might not have access to social media or even other media sources (Butler 2017, McKenzie 2018).

Eight different hashtags were used for analysis, and the research benefited from extra
sources of analysis such as the Twitter Archivist online tool, and the Theory of Planned Behaviour (TPB) by Ajzen (1991). The research questions for this study have to some extent been answered since the research discovered the following:

People turn to social media during a crisis for many different reasons, the framework provided by Houston et al. (2015) was able to be adapted to the water crisis in South Africa, indicating that in that case the fifteen usage areas were used. TBP assisted in highlighting the dimension of factors that indicate behavior, people often value attitudes, the social norms and the efforts needed before acting out behavior (Ajzen 1991). The aspect of the socio-political situation of the case, in this case the water crisis in South Africa might also play a contributing factor regarding who has access so to social media during the crisis (Butler 2017, McKenzie & Swails 2018, #29, #39, #47, #102, #103, #124, #131, #164, #166, #207).

Different actors have in this research tended to dominate certain usage areas, such as individuals often use social media to express emotions and concerns and share information about the condition or situation they or somebody else are in, whilst media and government often shared news coverage of the crisis. Organizational actors used many of the usage areas quite distributed, and community actors were not very represented. Something this research found that was not part of the framework was companies or corporations as an actor category. These actors often used the crisis hashtags and awareness raising combined with promotion of their business (#3, #110, #111, #123, #137, #182, #185, #209, #218, #240, #241, #243, #247).

The limitations and delimitations section early in this research indicates where this research could have done better, or what could be contributed in future research. Largely that empirical evidence could be better investigated in the field or through interview methods, the study could have had a better selection of both tweets, and potentially representation of the community in South Africa if data also was retrieved in for example Afrikaans. The scope of the research and the time limit has also played a factor.

However the study has contributed to testing the framework presented by Houston et al. (2015), as well as highlighting some of the opinions by the citizen’s of Cape Town during the crisis. It has also contributed to the existing research on social media use during a crisis, in order to in the future find better crisis responses and tools. The framework by Houston et al. (2015) was not the perfect fit for the case study, and indicates a need for a similar type of framework that can be used in a crisis situation. Also the water crisis in Cape Town never had
a clear beginning or end, it was gradually built up, therefore the ability to postpone Day Zero until 2019 did not fully provide and end to the crisis, but rather time to research solutions.
8. References


Mauck, B. A. (2017). *The capacity of the Cape Flats aquifer and its role in water sensitive*
urban design in Cape Town (Doctoral dissertation, University of Cape Town).


and conceptual frameworks. *International Journal of Information Management, 35*(1), 33-44.


Annex

Findings Tweets

#DayZero;

#1 Climate Reality (project), linked an article to the Guardian with information reporting that Spain, Morocco, India and Iraq are also facing possible Day Zero due to climate change.
https://twitter.com/ClimateReality/status/991564442973474816
#DayZero, 1 May 2018 (Retrieved 2 May 2018)

#2 Employee by a economic research team, shared pictures of drying dams and states that more cities will experience problems due to changing climate.
#DayZero, 2 May 2018 (Retrieved 2 May 2018)
https://twitter.com/adeline_vh/status/991631701947437057

N/A #3 A spa offers waterless facial treatments.
#DayZero, 2-May-2018 (Retrieved 2 May 2018)
https://twitter.com/SteamOnMain/status/991573229796982784

#4 Person went on a trip to Cape Town and realized how important water is and how it should be an appreciated resource.
#DayZero, 1-May-2018 (Retrieved 2 May 2018)
https://twitter.com/armandwcfo/status/991404484675981317

#5 A tourist town, posting a chart of different dam levels for the week in the Western Cape area.
#DayZero, 1 May 2018 (Retrieved 2 May 2018)
https://twitter.com/ShowMeStellies/status/99156958893741056

N/A #6 American tweeting about the water usage per day for the average American, and calls
for an end to the world’s water crisis.

#DayZero #CapeTownwatercrisis, 29 April 2018 (Retrieved 2 May 2018)

https://twitter.com/yepitsdivyaj/status/990781319973138432

#7 Information hub, from a university in Johannesburg, shares information about their new magazine issue where the subject of Day Zero, and how the water crisis could provide opportunities.

#DayZero, 29 April 2018 (Retrieved 2 May 2018)

https://twitter.com/Wits_News/status/990517545282125824

#8 Person questioning false drought alerts and the fact that Day Zero is postponed to 2019.

Claiming that the DA is economically corrupt, and lying to people.

#DayZero, 28 April 2018 (Retrieved 2 May 2018)

https://twitter.com/ScarletInk23/status/990232519277768705

N/A #9 A design and furniture company in Johannesburg has heard that tourism has suffered in Cape Town, and that the DA has made up Day Zero, and therefore made the issue go away quickly.

#DayZero, 23 April 2018. (Retrieved 2 May 2018)

https://twitter.com/Sentletse/status/988522043229589504

#10 Cape Town DJ interested in media, shares article about stories from Cape Town residents regarding the present and future of Day Zero.

#DayZero, 30 April 2018 (Retrieved 2 May 2018)

https://twitter.com/bjeaglefeather/status/991011837557792768

#11 A stormwater magazine, Day Zero is already happening in India and predictions of South Asia. with link.

#DayZero, 27 April 2018 (Retrieved 2 May 2018)

https://twitter.com/StormwaterMag/status/989894446522265605

#12 Australian person, cheers on Cape Town for its water savings.
#DayZero, 1 May 2018 (Retrieved 2 May 2018)
https://twitter.com/Elmarie912/status/991329650709327872

#13 Cape Town resident, sharing a text on the socio-economic cleavages that are happening in Cape Town, and how some people already have experienced Day Zero. Talks about the DA and how they do not care about poor people, and want to make money. 
- asking for the picture to be shared.
#DayZero, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/SaarahJacobs/status/958433093832138755

#14 Writer sharing an old picture from an article written by the person 11 years prior. The article regarded the plans of a desalination plant.
#DayZero #CapeTownWaterCrisis, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/metrobabe/status/958422150062493696

#15 Person sharing a link woth information on what Austrailia can teach Cape Town regarding drought experience.
#DayZero, 7 Feb 2018, (Retrieved 2 May 2018)
https://twitter.com/Alex_Verbeek/status/961153086919204865

#16 An account named after Day Zero, reports on a pushing back of the Day Zero to 16th of April, and remains positive to defeat it.
#DayZero #DefeatDayZero, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Defeat_DayZero/status/958297397645463552

#17 Johannesburg Lawyer?, reports about a governmental representative who went on TV and complains about the handling of the crisis by Cape Town leaders.
#DayZero, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/joburglawyer/status/958464223524343808

#18 the DA announces that Day Zero has been pushed back, and the amount of cutbacks in litres per day.
#DayZero, #DefeatDayZero, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Our_DA/status/958298581022146560

#19 South African weather forecaster, how Cape Town could be the large city to run out of water, plus a picture of the large dam compared to 2013.
#DayZero, 30 Jan 2018. (Retrieved 2 May 2018)
https://twitter.com/tWeatherSA/status/958292634551881728

#20 WWF SA, links a file to their compilation on water resource use.
#DayZero, 30 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/WWFSouthAfrica/status/958276330910572544

#21 GivenGain foundation for social impact by companies, reports of a disaster response organization who is helping the western Cape residents. link for donations.
#DayZero, #CapeTownDrought, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/GivenGain/status/958246624878321664

#22 South African says that whenever seeing a picture of the dam, some bulldozers should come and remove sand so when it rains it can hold more water.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/tomnk123/status/958231671719055360

#23 Greenpeace Africa, informing about the 50 litre water restriction and stating that that amount would equal eight flushes in a toilet. Also calling for a national disaster declaration from Jacob Zuma.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Greenpeaceafric/status/958218228135874560

#24 An eyewitness news report providing a satire image of conversation involving Helen Zille.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/ewnreporter/status/958226522145542144
#25 A news report from a Africa news site, saying that Helen Zille is blaming the national government for water in bulk supplies in Cape Town. With a video clip.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/eNCA/status/958195152295575552

#26 Youth politician, not happy with the DA and the handling of the crisis, saying that they should have taken advice in 2011.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/JeanKriek/status/958058425933541377

#27 South African group, informing the meaning of Day Zero and that residents will not have tap water for 150 days. Asking to “let it sink in”.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/SA_Heroes/status/957957532731039744

#28 City of Cape Town, posting cartoon and urging to keep saving water even with the warm temperature, to avoid Day Zero.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/CityofCT/status/957923408746074112

#29 Person asking why the media has not been informing that places in QwaQwa have had no water for years.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Mazibukopj/status/957913325110743040

#30 News media posting a pic of water bottles that will be sent from Johannesburg to animal shelters in Cape Town.
#DayZero, 29 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/TimesLIVE/status/957899883675049986

#31 South African saying that QwaQwa has been suffering from a water crisis, yet did not
have any DayZero countdown or warnings only capped taps.
#DayZero, 28 Jan 2018. (Retrieved 2 May 2018)
https://twitter.com/NyakalloLephoto/status/957568247737483265

#32 A Cape Town news reporter saying that the water crisis must be depoliticized and to not care about ideology in order to avoid Day Zero.
#DayZero, #CPTWaterCrisis, 28 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/ajnarsee/status/957547512075763712

#33 Person suggesting that citizens of Cape Town that seem clean should be fined.
#DayZero, 27 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/SimonPGrindrod/status/957237479194624001

#34 Account named Cape Town predicts that the people of Cape Town and South Africa will come together during the crisis.
#DayZero 26 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/CapeTown/status/957147064688955392

#35 Regional weather forecaster posting information on the rain, Day Zero and other years of rain levels. Stating that 2017 was the driest so far.
#DayZero, 26 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/tWeatherSA/status/956852384843608065

#36 Person asking for inventions and ideas on how to increase the compliance of the citizens to lower water usage.
#DayZero, 26 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/DavidPerrott_/status/956837312062742528

#37 South African posting satire cartoon regarding white and black people (racial differences) and Day Zero.
#DayZero, 26 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/_Revolution18/status/956799182374830085
#38 Person replying to a politician’s tweet about handing out water buckets, by saying it is a little too late at this stage.

#DayZero, 25 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/SimonPGrindrod/status/956634929521192962

#39 Media involved person from Cape Town saying that Day Zero is actually nothing new. That many communities have been out of piped water supplies and the media favors certain people.

#DayZero, 25 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/LeratoRSA/status/956597178348310528

#40 Organization engaged person shares information about another city that suffered from a water crisis.

#DayZero, 25 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/alexisjmorgan/status/956562090520559616

#41 Person hoping that Cape Town will not lose its humanity due to the water shortage. Since wars have been fought over other resources.

#DayZero, 25 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/_vanniekaap/status/956558234529271808

N/A #42 Capetonian making a joke about mansplainers and linking it to the water crisis.

#DayZero, 25 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Nick_Frost/status/956485420300296194

#43 Capetonian thinks that people are more opinionated about problems outside their control rather than for example their water use, which they can control.

#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/RK_ct/status/956434773781766149

#44 Local politician informs about the reduced water usage of his personal household and
stating that avoiding Day Zero could be possible.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/brettherron/status/956419857892945920

#45 The profile of an organized Cape Town marathon informs that they have noticed concerns of people that are worried about the impact their event will have on the water supply, and shares a link to more information.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/2OceansMarathon/status/956394060285136896

#46 South African alerting about the consequences of Day Zero on the whole country, and ends by saying “we are in this together”.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/abelmike/status/956263548723912709

#47 South African addressing politician and telling white people to calm down, black people have experienced Day Zero for a long time.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/pinkykhoabane/status/956217379167657986

#48 Capetonian sharing the importance of not tolerating people that spread misinformation and fear regarding the crisis. The people must work together to overcome.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/BigDaddyLiberty/status/956212200359825409

#49 American media editor sharing information about the Cape Town water restrictions, and the need for rain.
#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/JMPyper/status/956204346957479937

#50 Regional weather forecaster sharing a picture of a person buying all the water bottles at the store without sharing with other customers.
#51 South African activist encouraging people to keep saving water, and that every person plays a role.

#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/ChangeAgentSA/status/956103652732755968

#52 South Africa’s Water and Sanitation department stating that they will keep out of politics and focus on supporting during the crisis.

#DayZero, 24 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/DWS_RSA/status/956103495236685824

N/A #53 Capetonian retweeting Helen Zille’s post where she uploaded a picture of her feet standing in a bucket of water. The person then jokingly asks if she wastes good water in order to get support on social media, or if she will wash her face in “foot water”.

#DayZero, 23 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/NishalRobb/status/956074024681066497

#54 Capetonian hopes that the crisis will make people realize their privileges, address the needs of the poor, and find long term solutions.

#DayZero, 23 Jan 2018. (Retrieved 2 May 2018)
https://twitter.com/KarenBreytnbach/status/956056266559885313

#55 South African youth politician is defending the rulers of Cape Town saying that they indeed had tried to tackled the water scarcity issue years prior, with different projects.

#DayZero, 23 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/BigDaddyLiberty/status/956053533111013376

#56 Capetonian vlogger sharing a picture of her wearing braids in order to not having to wash her hair as often, and asking her followers how long they go before a wash.

#DayZero, #CapeTownwatercrisis, 23 Jan 2018 (Retrieved 2 May 2018)
N/A #57 South African media personality retweets a picture of a pastor and his statement regarding the crisis and the LGBTQ community.
#DayZero, 23 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/Lean3JvV/status/955904192954224641

#58 News portal sharing a link to “21 tips for the privileged facing lifestyle shifts as DayZero hits”.
#DayZero, 23 Jan 2018 (Retrieved 2 May 2018)
https://twitter.com/thedailyvox/status/955817409797124097

#59 Capetonian beauty reporter sharing a link to her blogg with water saving beauty suggestions.
#DayZero, 22 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/lipglossgirl/status/955480967795347456

N/A #60 South African asking the people of Johannesburg to also save water, similar to the Cape Town situation in order to not have a similar situation.
#DayZero, 19 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/UlrichJvV/status/954330276150304768

#61 Journalist from Cape Town telling the people that the 50 litre restrictions should not only be an obligation, but in everybody’s urgent interest.
#DayZero, 18 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/AlettaHarrison/status/953946500043870210

N/A #62 Colombian innovator sharing a picture of how to create your own desalination plant, and suggesting not to wait around for politicians to make a plan. Do it yourself.
#DayZero, 18 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/sakhalwaya/status/953935644258197504
#63 Capetonian who thinks that they have not yet received enough information about the details regarding the water rationing come day zero. Askin politician questions on what people will do about their jobs and tagging Helen Zille and Patricia De Lille.

#DayZero, 9 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/SimonPGrindrod/status/950710002842525696

#64 South African a picture of the dam from the air, saying it is scary to see.

#DayZero, 23 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/skalabrak/status/967009658081873920

#65 WWF South Africa shared a link from CNN where an American reporter together with his family spent 24 hours with the water resources of 25 litre, and claims it is “possible but not ideal”.

#DayZero, 26 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/WWFSouthAfrica/status/968138179382513664

#66 CNN shares the (same story as above) story about their reporter who tried living on 25 litres per person for 24 hours.

#DayZero, 22 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/CNNweather/status/966746813209473024

#67 African news media site shares a video of capetonians queuing for water by on the water springs.

#DayZero, 25 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/eNCA/status/967676984636489729

#68 Capetonian shares a picture of people by the water spring, saying that the queues seem shorter.

#DayZero, 24 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/ajnarsee/status/967664557190799360

#69 An American podcast account shares a link to their podcast episode with information
about the Cape Town crisis.
#DayZero, 23 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/today_explained/status/967057958378065920

#70 Western Cape parliamentarian believing that if the Western Cape government would have been approved as a national disaster in November 2015, when they previously applied, then maybe the situation could have been avoided. Tagging Helen Zille.
#DayZero, 23 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/ricardomackenzi/status/966967291261935616

#71 A South African movement that wants to improve the country’s educational system tweets that they demand safe and adequate plans regarding Day Zero for the schools. Shares a link from a news clip of their protest march.
#DayZero, 22 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/equal_education/status/966655964677013509

#72 A global animal rights organization shares a picture of a dog drinking water, and that they are working on providing water for families to tend to their pets during the drought in Cape Town.
#DayZero, 21 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/action4ifaw/status/966350588530319361

#73 A world resource organization shares a link with “3 things cities can learn from Cape Town’s impending #DayZero water shut-off”.
#DayZero, 21 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/WorldResources/status/966324179082579968

#74 South African activist sharing a picture from an organization hosted workshop on Day Zero.
#DayZero, 21 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/GavinSilber/status/966231565402505216
#75 Capetonian sharing information about the push of Day Zero and is encouraging regarding 50 litres of day adaptation, and to keep saving water.
#DayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/DiBrown5/status/966187683822305282

#76 South African journalist posting a picture of a timer with 7 seconds left to the clock after a 2 minute shower. And that timers in showers are a good idea for the guests.
#DayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/Devi_HQ/status/966178625702760448

#77 Regional weather forecaster informs about the postponed date of Day Zero (9 July). Plus thanking farmers for the water donation.
#DayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/tWeatherSA/status/965903325848797184

#78 Capetonian sharing a picture from being stuck in a traffic jam, and considered it being tolerable because it is finally raining some.
#DayZero, 23 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/MaoAmis/status/967056517131374593

#79 South African disaster response organization shares a picture of water bottles ready for shipping from Durban to Cape Town. Shares a link where people can contribute.
https://twitter.com/GiftoftheGivers/status/966985419932995584

#80 Global water forum shares article on behavioral change and how water usage has changed in Cape Town due to the crisis.
#DayZero, 22 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/GWFWater/status/966932135318704129

#81 South African writing about changing water habits since the crisis, and that hearing about warnings 20 years ago but did not take it seriously.
#DayZero, 22 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/African_Spring/status/966896616757067776

#82 South African news correspondent sharing a picture of an opinionated article the person wrote for a newspaper.

#DayZero, 21 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/Bonne_de_Bod/status/96622453197426688

#83 An account named #DefeatDayZero (campaign by Mmusi Maimane) shares information about Day Zero being pushed back to 9th July, and thanking Cape Town for the achievement.
#DayZero, #DefeatDayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/Defeat_DayZero/status/965901354328879105

#84 Capetonian sharing information of Day Zero date being moved to July 9.
#DayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/AndiMakinana/status/965901032667656192

#85 Mmusi Maimane sharing that the date was pushed to 9 July. Thanking for commitment and resilience.
#DayZero, #DefeatDayZero, 20 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/MmusiMaimane/status/965899583275532288

#86 South African empowerment programme states that “South Africa has less water per person than Botswana & Namibia”.
#DayZero, 19 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/missearth_sa/status/965572382843965440

#87 WWF South Africa shares a new date for day zero (4 June), and a link to an article regarding water stress in other cities.
#DayZero, 17 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/WWFSouthAfrica/status/965111890815860741
#88 Greenpeace Africa shares that the crisis has been declared a national disaster, and that over 4000 people has reaches out to the president.
#DayZero, 14 Feb 2018 (Retrieved 5 May)
https://twitter.com/Greenpeaceafric/status/963756987107479554

#89 DA shares that new day zero date is 4 June 2018, plus encouragement.
#DayZero, 13 Feb 2018 (Retrieved 5 May)
https://twitter.com/Our_DA/status/963378436860506113

#90 Satellite imagery service shares a time lapse of the dam.
#DayZero, 12 Feb 2018 (Retrieved 5 May)
https://twitter.com/sentinel_hub/status/963057990667522048

#91 South African anti corruption organization sharing a link and writing that water should be saved all over South Africa because it can happen everywhere.
#DayZero, 9 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/OUTASA/status/962047775004286976

#92 Political youth leader from Cape Town shares political thoughts on ideas to nationalizing water.
#DayZero, 8 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/BigDaddyLiberty/status/961582303255449600

#93 Helen Zille shares a picture from a meeting with the management of a South African beer company regarding free water distribution to retailers in Cape Town.
#Day Zero, 8 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/helenzille/status/961510250229780480

N/A #94 A South African cartoonist shares a comic cartoon of business opportunities during the crisis.
#DayZero, 6 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/madamevecartoon/status/961116464710406145

#95 Person saying that “comedians have more sense than many politicians in office” and retweets a famous comedian’s opinions on the crisis.
#DayZero, 6 Feb 2018 (Retrieved 5 May 2018)
N/A #96 Tourism agency from Cape Town thinks that saving water will help to avoid day zero and develop a better economy, and asking what companies are doing to help.
#DayZero, 6 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/Wesgro/status/960844691892850688

#97 South African weather forecaster shares video of water added to the major dam, a donation from farmers. Saying it was part of the reason of Day zero push back.
#DayZero, 6 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/tWeatherSA/status/960834618990657537

#98 Mmusi Maimane informing that Day Zero has been pushed to 11 May, but that people should still save water. Plus link to legal responsibilities.
#DayZero, #DefeatDayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/MmusiMaimane/status/960779345408258048

N/A #99 South African saying that the president’s “authority is evaporating faster than a dam in Cape Town during a heatwave”
#DayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/SimonPGrindrod/status/960582818463088640

#100 American meteorologist informing that the Cape Town Day Zero has been pushed to mid-May and that some rain might come in the forecast. Plus weather image.
#DayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/VanDamCNN/status/96051965208559296

#101 Capetonian radio channel writes that Day Zero has been moved due to the cutbacks in the agricultural sector.
#DayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/CapeTalk/status/960485692387282946

#102 South African reporter writing that the black people of the country never had a day zero projection.
#DayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/NickolausBauer/status/960468903142023174

#103 South African columnist shares the words of a parliamentary member saying that black people never had a day zero.
#DayZero, 5 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/HloniNyetanyane/status/960469721824022528
#104 South African claiming that the politicians of Cape Town should prioritize the crisis rather than their internal issues after the De Lille conflict of the DA.
#DayZero, #CapeTownWaterCrisis, 3 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/SimonPGrindrod/status/959734497867595778

#105 Capetonian media site shares a picture of an 1990 article predicting the running out of water in 2007. Saying that the crisis could have been prevented.
#DayZero, #CapeTownWaterCrisis, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/DailyVoiceSA/status/959331674470453248

#106 South African blogger saying that no matter where in South African people live, they should have started saving water due to the crisis.
#DayZero #CapeTownWaterCrisis, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/Ilse123/status/959056538169151498

#107 Capetonian asking for rain. Saying that the water tap at the gym was closed, and bottles out in the store.
#DayZero, #DefeatDayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/mahlatseTalks/status/959041490667343872

#108 South African group saying that other places in SA are being told to be careful when sending water to Cape Town to not create their own crisis, + water tankers have been stopped. “Is this just the beginning?”
#DayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/SA_Heroes/status/959014024280248321

#109 A Capetonian innovation network shares info regarding their “hackathon” where innovations for saving water can compete.
#DayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/SBCCapeTown/status/959012274399776769

N/A #110 Capetonian business provides a water saving tip, to save water by collecting grey water already used, to flush toilets.
#DayZero, #CapeTownWaterCrisis, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/MetalWindows1/status/959007611059306497

N/A #111 Capetonian aquarium provides tip on how to save water, by collecting zink grey water for toilet flushes. And asking people how they save water.
#DayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/2OceansAquarium/status/959004848892104705

#112 Capetonian sustainability magazine sharing a picture of guidelines for using only 50
litres a day. And urging to defeat day zero.

#DayZero, #DefeatDayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/SimplyGreenZA/status/958989987856506881

#113 South African news reporter sharing a video from a construction of a desalination plant on the western Cape.

#DayZero, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/pheladi_s/status/95898444975378432

#114 South African weather media shares that restriction level 6b is now in place and the 50 litre limit.

#DayZero, #CapeTownWaterCrisis, 1 Feb 2018 (Retrieved 5 May 2018)
https://twitter.com/eNCAWeather/status/958975658453094402

N/A #115 South African saying that Cape Town should be happy about their DA government and that with ANC the crisis would have been earlier.

#DayZero, 8 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/XondoZ12/status/971760132215463936

#116 The account from the city of Cape Town sharing information about the amount of daily reductions done. But in order to avoid day zero in 2019 as well people need to keep to restrictions.

#DayZero, #50litreLife, 28 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/CityofCT/status/978912115485560833

#117 Cape Town tourism shares comic video regarding the crisis, and writes that day zero has been “moved out”, but people still need to save.

#DayZero, 27 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/lovecapetown/status/978629218304253952

#118 Capetonian journalist providing information about dam levels. and saying that the local gov are worried that after day zero has been moved to 2019 that people will not save as much.

#DayZero, 26 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/GraemeRauby/status/978254094447120385

#119 Capetonian sports team shares a picture of 50 litre posters they are providing, and asking people to keep working together for the crisis.

#DayZero, 24 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/NewlandsCricket/status/977481485560307712

#120 Global health and development blog shares quote by Cape Town student who
sometimes gets thirsty at school, however the access is cut. Plus a link.
#DayZero 22 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/NPRGoatsandSoda/status/976790068466716672

#121 IFRC Africa shares picture and information about their efforts to distribute water in Cape Town, for schools and elderly homes.
#DayZero, 22 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/IFRCAfrica/status/976785122186981376

#122 Indian organization posts link from a press release regarding 10 cities that might reach a day zero.
#DayZero, 21 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/CSEINDIA/status/976424473560797184

N/A #123 South African bicycle distributor shares picture of a bike next to the dry dam.
#DayZero, 18 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/AlpineSportsSA/status/975334184486100993

#124 American journalist shares pictures of reporting in Cape Town, and writes that some black people are living in shacks and have never had water access. “Every day has been #DayZero for them”
#DayZero, 15 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/Dena/status/974354064858402817

#125 the City of Cape Town shares a picture of how day zero is calculated and what factors that influence. + opting for the 50 litre restriction.
#DayZero, 13 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/CityofCT/status/973538932523708416

#126 South African tourism department posting of minister, and saying that the delay of Day Zero is welcome, and that it concerns all travelers.
#DayZero, 8 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/Tourism_gov_za/status/972000870828134400

#127 Capetonian school principal shares picture of child bringing grey water in a 5 liter jug to school. And states that the school value action driven learning.
#DayZero, 8 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/rugaya5/status/971783057832325120

#128 Australian consultant sharing an article and writing that the Cape Town crisis is more driven by politics rather than drought.
#DayZero, 29 Mar 2018 (Retrieved 10 May 2018)
#129 Australian awareness blogger writes that even if the politicians ignore climate change it won't make the issues stop.
#DayZero, 17 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/Jackthelad1947/status/975169928545234944

#130 African urging for media to believe in scientist rather than politicians when it comes to the water crisis.
#DayZero, 8 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/GeorgeClaassen/status/971764638814699520

#131 South African news reporter shares story on a community outside of Johannesburg that do not have access to water, already have day zero.
#DayZero, 7 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/KatyKatopodis/status/971649191977070592

#132 South African anti corruption organization blaming the Department of Water and Sanitation for corruption resulting in the water crisis, and failing their constitutional duty.
#DayZero, 7 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/OUTASA/status/971636589871976448

#133 South African sharing a twitter debate about critique of the DA’s handling of the crisis.
#DayZero, 7 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/tumisole/status/971607083681501185

#134 German institution sharing information about what it is like in Cape Town during the crisis. and that the rich are now affected as well.
“DayZero, 6 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/rosaluxstiftung/status/970953767536549888

N/A #135 Scottish professor are using the example of the water crisis in order to promote renewable energy.
#DayZero, #CapeTownWaterCrisis, 4 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/ProfStrachan/status/970294010781884416

#136 UK person sharing pictures of Cape Town’s dried dam.
#DayZero, 3 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/rawlangs_alex/status/969891703560855552

N/A #137 Cape Town waterfront complex shares initiatives they make to reduce water usage to avoid day zero.
#138 Capetonian journalist sharing a video of opinions regarding the update from the deputy mayor on the water saving efforts.

#DayZero, 3 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/VandAWaterfront/status/969873563476987904

#139 Capetonian says that living on 50 litres a day has put a new perspective on life and created a new appreciation.

#DayZero, 1 Mar 2018 (Retrieved 10 May 2018)
https://twitter.com/GraemeRauby/status/969228772623962112

#140 South African blogger sharing a link to a radio show that seeks solutions to the crisis, and would like to have opinions.

#DayZero, 28 Feb 2018 (Retrieved 10 May 2018)
https://twitter.com/jtdelange/status/969090422516666368

#141 Canadian asks people to support the animals affected by the water crisis by donating. Link to organization.

#DayZero, 28 Feb 2018 (Retrieved 10 May 2018)
https://twitter.com/Bronwynnevans/status/969081274718539776

#142 Non-profit initiative asks for journalist help to find solutions for global water scarcity. Saying that the problem is both about corruption and climate change.

#DayZero, 19 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/thebteamhq/status/986962631377465346

N/A #143 South African posting a picture of rain, calling it “blessings from above”.

#DayZero, 10 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/TresorsStudio/status/983659590297571329

#144 South African public person sharing a link to a story about communities affected by water issues for a long time.

#DayZero, 7 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/BrentLindeque/status/982861195643445248

#145 Activist saying that water crises are happening in other places as well, which needs to receive awareness as well. Hoping for rain.

#DayZero, 24 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/alexisjmorgan/status/988918102535561217
#146 Global Water Forum saying that many factors need to receive attention in order to not have other day zero situations. + link.
#DayZero, 17 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/GWFWater/status/986156706945089536

#147 Cape Town Travel Guide sharing a link to why people should still travel in Cape Town even with the water crisis.
#DayZero, 17 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/capetowntg/status/986137189946884096

#148 Organization shares a link on how this type of crisis could be prevented in other cities.
#DayZero, 1 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/WRIRossCities/status/980552911573962752

#149 American organization shares link about successfully Cape Town has saved water compared to California.
#DayZero, 1 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/RestoringNOLA/status/980492759382614016

#150 Zimbabwean saying that Cape Town should adopt a minimalist lifestyle to keep day zero at bay.
#DayZero, 1 Apr 2018 (Retrieved 10 May 2018)
https://twitter.com/Kingjameszw1/status/980391137453268992

#151 Mmusi Maimane informing that the date has been moved to 9 July, and provides water saving numbers and thanks for the citizens’ commitment.
#DayZero, #DefeatDayZero, 20 Feb 2018 (Retrieved 10 May 2018)
https://twitter.com/MmusiMaimane/status/96589958327553288

#152 South African activist wants the DA to be exposed for corruption and how the crisis could be fake.
#DayZero, 10 May 2018 (Retrieved 10 May 2018)
https://twitter.com/Queen_I_am2/status/994679337738735619

#153 Cape Town consultancy sharing a link about information regarding waste water, desalination, other experiences and sanitation in schools.
#DayZero, 10 May 2018 (Retrieved 10 May 2018)
https://twitter.com/IsidimaSA/status/994495835512692736

#154 Water/environmental expert sharing the Cape Town story and saying that it is a good example of resilience can come from extreme pressure.
#DayZero, 9 May 2018 (Retrieved 10 May 2018)
#DefeatDayZero:

#155 DA posting a picture of the team that will defeat the crisis, with Mmusi Maimane in charge.
#DefeatDayZero, 24 Jan 2018 (Retrieved 5 May 2018)
https://twitter.com/Our_DA/status/956091404866015232

#156 Mmusi Maimane, posting picture of mail correspondence sent to new national ANC leader and is asking for cooperation with the water crisis.
#DefeatDayZero, 29 Jan 2018 (Retrieved 5 May 2018)
https://twitter.com/MmusiMaimane/status/957946517851197440

CPTWaterCrisis:

#157 South African media strategist are suggesting to collect shower water and then use it for flushing the toilet, or pour in the garden.
#CPTWaterCrisis, 27 Sep 2017 (Retrieved 3 May 2018)
https://twitter.com/vanessaperumal/status/913263557160161281

#158 South African sharing picture from fast food restaurant that cannot serve soft drinks due to water shortages, saying that situation “just got real”.
#CPTWaterCrisis, 30 Oct 2017 (Retrieved 3 May 2018)

#159 Cape Town journalist informing about DayZero situation and all the restrictions and date of DayZero.
#CPTWaterCrisis, #DayZero, 30 Jan 2018 (Retrieved 3 May 2018)
https://twitter.com/GraemeRauby/status/958377210469068800

#160 An account named Cape Town Water Crisis | South Africa wants to spread the message regarding level 6b water restrictions that will be in place 1 Jan. “Every drop counts”.
#CPTWaterCrisis, #CapeTownWaterCrisis, 30 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/CPTWaterCrisis/status/947087231457660928

#161 Organizational leader from Cape Town saying that relationships will be the most precious resource when faced with crisis.
#CPTWaterCrisis, 13 Feb 2018 (Retrieved 11 May 2018)
https://twitter.com/ColvinH2O/status/963651256261726208

#162 South African Organization retweets a post by Helen Zille regarding national government assistance for the crisis, and claiming she is posting fake news.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/Adamitv/status/957618955476226048

#163 Independent media posts a link to story and says that the ANC claims that DayZero is made up by DA.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/IOL/status/957601638990188544

#164 South African citizen journalist claiming that that the water problem in Cape Town is only now labeled as a crisis because white people are affected. Black people have had no access for a long time.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/mzansi_facts/status/957590930919514113

#165 South African journalist posting a picture of a message Patricia De Lille sent allegedly rejecting a desalination plant.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/oliver_meth/status/957579979193233408

#166 Capetonian saying that the crisis has been focused on white people, even though the poor colored people will be more affected.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/SiveNdika/status/957588538245222400

#167 South African saying that the crisis is just an excuse for the government to use public funds.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/MOHALE94/status/957587568740175872

#168 South African media profile asking if the University of Cape Town could research solutions for desalination since they have a hydrology department.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/MUSA_KHULU/status/957584723320147968

#169 South African asking why Cape Town is special since other places have water scarcity.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/Jus_Stu/status/957571285307088898

#170 American saying that the water crisis in Cape Town should be a reality check for everybody, and to think about the future generations.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/katboybna/status/957720823988736000
#171 South African stating that Cape Town could have avoided the crisis, and sharing a picture of an article.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/Mme_Mosebi/status/957603304338612224

#172 Capetonian calling for an end to blame gaming and to rather try to find solutions.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/Rola_Sahara/status/957563054622953472

#173 Capetonian sharing concerns for the people without an income when DayZero arrives.
#CPTWaterCrisis, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/OliverWitbooi/status/957562893028950016

N/A #174 Colombian innovator are calling out specialists and engineering corporations to help contribute to the Cape Town water crisis.
#CPTWaterCrisis, #DayZero, 28 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/sakhalwaya/status/957560807218405377

#175 Capetonian news media sharing a picture of Mmusi Maimane who vows that he will defeat day zero.
#CPTWaterCrisis, 24 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/TheSAnews/status/956090666714566656

#176 American sharing a link on how to make an desalination kit at home for emergencies.
#CPTWaterCrisis, 23 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/MarineHero/status/955919072784461829

N/A #177 South African notifies that there is a possibility for rain in Cape Town, asking for rain.
#CPTWaterCrisis, 22 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/PumzozoPushie/status/955444124202741760

#178 Account named Cape Town Water Crisis | South Africa, sharing information on how much water different household activities need.
#CPTWaterCrisis, 2 Jan 2018 (Retrieved 11 May 2018)
https://twitter.com/CPTWaterCrisis/status/948226544056578051

#CapeTownWaterCrisis:

#179 Cape Town journalist sharing an article considered worth reading, about the water restrictions.
#CapeTownWaterCrisis, 28 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/Bridgetti/status/946406513723301888

#180 Person receiving information about the water restriction from Airbnb after booking accommodation. Saying it was “great to see”.

#CapeTownWaterCrisis, 20 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/JamesPWRoberts/status/943454291783749633

#181 Person advising people not to buy a certain brand of water bottles because it is filled with municipal water being sold.

#CapeTownWaterCrisis, #CapeTownDrought, 17 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/FromLilithsLips/status/942357788348571649

N/A #182 South African consultancy firm sharing a picture of employees signing a pledge to be water wise.

#CapeTownWaterCrisis 29 Nov 2017 (Retrieved 11 May 2018)
https://twitter.com/mazeconsult/status/935936970487943171

#183 A music band saying that member used water from rain to clean the house floors.

#Cape town water crisis, 3 Nov 2017 (Retrieved 11 May 2018)
https://twitter.com/COLDWASH47/status/926403653451370497

#184 Organization worker sharing experience of visiting Cape Town and the measures taken for the water crisis.

#CapeTownWaterCrisis 20 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/danbkln/status/943554423883812871

N/A #185 Western Cape restaurant sharing a picture of their seafood being displayed on frozen stones in order to save ice and water.

#CapeTownWaterCrisis, 4 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/On_The_RocksZAP/status/937690245084205057

#186 South African journalist saying that the government of the Western Cape might implement stricter restrictions on water in the future.

#CapeTownWaterCrisis ,26 Jun 2017 (Retrieved 11 May 2018)
https://twitter.com/Lizira00/status/879349502196449281

N/A #187 Capetonian visiting Durban are happy about taking a long shower.

#CapeTownWaterCrisis,1 Jun 2017 (Retrieved 11 May 2018)
https://twitter.com/milosevicfritz/status/870220798623199232

#188 South African newsroom asks people in a poll whether the water crisis could have been
handled in a better way. 75% Yes, 25% No (219 votes total).
#CapeTownWaterCrisis, 29 May 2017 (Retrieved 11 May 2018)
https://twitter.com/SABCNewsroom/status/869440650613313536

#189 South African posting a picture of an information road sign, and writing that there is water left for 113 days and people should save water.
#CapeTownWaterCrisis, 6 Mar 2017 (Retrieved 11 May 2018)
https://twitter.com/TsepisoNzayo/status/838765882658672640

#190 Sports writer tweeted about the crisis after visiting for a cricket game, saying that there are far more matters to report in the city besides sport.
#CapeTownWaterCrisis 25 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/anandvasu/status/968031952207925248

#191 Indian sending blessings to Cape Town, imagining them “going through hell”. ? video of news.
#CapeTownWaterCrisis 22 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/NavedJafri_BOO/status/966924451546673153

#192 Capetonian sharing water reducing efforts made by family down to 30 litres per person.
#CapeTownWaterCrisis 19 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/Gawiesnr/status/965523057115877377

N/A #193 Cape Town aquarium providing a link and tips on how to dispose plastic water bottles in a good way throughout the crisis.
#CapeTownWaterCrisis 16 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/2OceansAquarium/status/964409794453843968

#194 American sustainability strategist feels like world is not paying enough attention to the crisis, believing it is the potential future for everybody.
#CapeTownWaterCrisis 26 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/Esteban4env/status/968167194147385344

#195 South African activist sharing an image of good ways to save water and reduce consumptions, saying it is a collective responsibility.
#CapeTownWaterCrisis 10 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/ChangeAgentSA/status/962280630649278464

N/A #196 Person asking “how can a coastal province run out of water when bordering the ocean?? Desalination plants? Tagging Helen Zille.
#CapeTownWaterCrisis 9 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/matigary/status/962220743131123712
#197 Farmer group, that is thankful for rain. Wishing some of it could be sent to Cape Town.
#CapeTownWaterCrisis 7 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/lhclaassen/status/961467324950896641

#198 Music band fangroup from Canada shares their fundraiser for Cape Town crisis.
#CapeTownWaterCrisis 7 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/EXOCanada/status/961440540691746817

#199 South African sharing a picture of water rich foods, saying it is possible to eat water to stay hydrated.
#CapeTownWaterCrisis 7 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/shaqct/status/961170213441032193

#200 South African Media sites shares article about the fall of housing prices since the crisis.
#CapeTownWaterCrisis 4 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/Moneyweb/status/960369915004882944

#201 New Zealand politician shares information about the Cape Town crisis and saying that this message is for other global cities as well.
#CapeTownWaterCrisis 4 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/HelenClarkNZ/status/960307163070525440

#202 Australian reporter sharing a news link about the crisis, and writing that Cape Town is fighting. This should be a warning for everybody.
#CapeTownWaterCrisis 3 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/MaryLloyd4/status/959938966068740096

#203 Researcher predicting “climate refugee” will be a term in the future, and sharing information about Cape Town crisis.
#CapeTownWaterCrisis 2 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/WilliamMeservy/status/959378928879259648

#204 Foundation president from Kenya reminds people of the Cape Town crisis, saying that other African cities also should keep with wetlands safe.
#CapeTownWaterCrisis 2 Feb 2018 (Retrieved 12 May 2018)
https://twitter.com/AWFPresident/status/959339041148866561

#205 Capetonian sharing experience from queing for spring water. Time consuming
#CapeTownWaterCrisis 20 Jan 2018 (Retrieved 12 May 2018)
https://twitter.com/Cfa89/status/95491971507544742
#206 South African informing about private and public dams, saying this is why there is a crisis.
#CapeTownWaterCrisis 28 Jan 2018 (Retrieved 12 May 2018)
https://twitter.com/FlexRabanyan/status/957601614965207040

#207 African saying “Imagine being so privileged and calling this a crisis when some of us have lived like this our whole entire existence in our respective villages”.
#CapeTownWaterCrisis 21 Jan 2018 (Retrieved 12 May 2018)
https://twitter.com/phethani4/status/955002392591945729

#208 Capetonian saying that 60% of citizens are not meeting the demands, 6b level restrictions. Everybody must contribute.
#CapeTownWaterCrisis 18 Jan 2018 (Retrieved 12 May 2018)
https://twitter.com/nataliemalgas/status/954053081859350528

N/A #209 American business sharing information about drought friendly “earth pods” so people can save water.
#CapeTownWaterCrisis 10 May 2018 (Retrieved 14 May 2018)
https://twitter.com/my_kokua/status/994560465769517057

#210 Non profit community from Cape Town informing about their new video series regarding the crisis. With researchers and academics. Asking for questions to be brought up.
#CapeTownWaterCrisis 10 May 2018 (Retrieved 14 May 2018)
https://twitter.com/Water4CPT/status/994547398528643072

#211 South African tourism initiative thinks that the crisis has been wrongly marketed, day zero sounds like something certain.
#CapeTownWaterCrisis 9 May 2018 (Retrieved 14 May 2018)
https://twitter.com/travel_indaba/status/994166430802350081

#212 UK journalist shares video and writes that Cape Town has been managing the crisis where the government has not through saving water.
#CapeTownWaterCrisis 8 May 2018 (Retrieved 14 May 2018)
https://twitter.com/JourneymanNews/status/993804745461633024

N/A #213 Global Water Forum sharing the term agualation “the conflicted feeling that comes from watching people, especially children, enjoy #water with abandon, and wishing that they would conserve a resource that you yourself never thought about until it had all but evaporated”. and a link.
#CapeTownWaterCrisis 7 May 2018 (Retrieved 14 May 2018)
https://twitter.com/GWFWater/status/993634368672284672
#214 South African believing that people should demand accountability from the government regarding the crisis.
#CapeTownWaterCrisis 10 May 2018 (Retrieved 14 May 2018)
https://twitter.com/rpollittsj/status/994477902371618817

#215 South African thinking that with crisis should not be blamed on Patricia De Lille, but a problem of overconsumption, especially by richer areas.
#CapeTownWaterCrisis 8 May 2018 (Retrieved 14 May 2018)
https://twitter.com/Athi_Rule/status/993933781982527488

#216 American visiting Cape Town thinking it was not so bad, and that people who want to visit should still do it.
#CapeTownWaterCrisis 8 May 2018 (Retrieved 14 May 2018)
https://twitter.com/The_Dagger_/status/993836119363112960

#217 UK organizationally active person, asking for opinions by people affected by the crisis.
#CapeTownWaterCrisis 8 May 2018 (Retrieved 14 May 2018)
https://twitter.com/SAbigailYates/status/993807708284424192

N/A #218 Scottish dishwasher company asking for funding for their small water saving dishwasher invention.
#CapeTownWaterCrisis #DayZero, 8 May 2018 (Retrieved 14 May 2018)
https://twitter.com/WeeWashCo/status/993778947723792385

#219 American sharing the water consumption habits of Americans in order to stop global water crises.
#CapeTownWaterCrisis 29 Apr 2018 (Retrieved 14 May 2018)
https://twitter.com/yepitsdivyaj/status/990781319973138432

#220 Unilever CEO shares article about new South African spray product for toilets that can reduce the amount of flushes needed.
#CapeTownWaterCrisis 23 Apr 2018 (Retrieved 14 May 2018)
https://twitter.com/PaulPolman/status/988330316283764736

N/A #221 Capetonian photographer shares image of lighting “lucky strike”.
#CapeTownWaterCrisis 28 Mar 2018 (Retrieved 14 May 2018)
https://twitter.com/MrCraigHowes/status/979078891959701505

#222 South African abroad challenging known airline company to use potentially empty flight seats to transport large water bottles on Cape Town flights. Asking people to retweet.
#CapeTownWaterCrisis 9 Mar 2018 (Retrieved 14 May 2018)
https://twitter.com/rakkers7/status/972067352111181825
#223 Magazine editor sharing article on how beauty and wellness routines are done with the water crisis in Cape Town.
#CapeTownWaterCrisis 7 Mar 2018 (Retrieved 14 May 2018)
https://twitter.com/samanthabarry/status/971514803415023616

#224 Travel magazine account shares link on how legal right and potential issues with landlords can affect people during the water crisis.
#CapeTownWaterCrisis 28 Feb 2018 (Retrieved 14 May 2018)
https://twitter.com/HermanusOnline/status/969085366174212096

#CapeTownDrought:

#225 (Earliest Tweet found of the crisis throughout the hashtags used in this study)
Capetonian sharing a picture of their dry lawn.
#CapeTownDrought, 29 Dec 2016 (Retrieved 11 May 2018)
https://twitter.com/Liesl_Smit/status/814519482374823940

#226 Capetonian shares idea of water being transported by travellers from Johannesburg, to make room in their baggage.
#CapeTownDrought, 11 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/Leigh_Andrews/status/940488674743062528

#227 UK person travelling to Cape Town, posting picture of billboard that promotes water saving. Saying the city take their water saving seriously.
#CapeTownDrought, 7 Nov 2017 (Retrieved 11 May 2018)
https://twitter.com/Cvllr/status/928167205522542592

#228 Capetonian sharing personal water saving amounts, and wants to save even more.
#CapeTownDrought, 10 Oct 2017 (Retrieved 11 May 2018)
https://twitter.com/mingcheau/status/917706787532525569

N/A #229 Capetonian observing spring flowers, stating that some rain would still have been preferable.
#CapeTownDrought, 14 Aug 2017 (Retrieved 11 May 2018)
https://twitter.com/DiBrown5/status/897091941007069184

#230 Photographer sharing a picture of the large dam, and informing about dam levels.
#CapeTownDrought, 9 July 2017 (Retrieved 11 May 2018)
https://twitter.com/kelvintrautman/status/884008535482413060

N/A #231 Capetonian promoting golf course for being good despite being dry.
#CapeTownDrought, 21 Dec 2017 (Retrieved 11 May 2018)
https://twitter.com/duncanbsc/status/943816779893280768

#232 Capetonian sharing link to created water monitoring and information sharing website as new project.
https://twitter.com/czue/status/921737709730848769

#234 Development initiative based in South Africa shares link of information on what could happen in case of water running out in Cape Town.
#CapeTownDrought, 22 Feb 2017 (Retrieved 11 May 2018)
https://twitter.com/ACDI_UCT/status/834403071430184960

N/A #235 Hopeful person sharing an image of weather forecast saying there might be chance of rain the week later.
#CapeTownDrought, 7 Mar 2017 (Retrieved 11 May 2018)
https://twitter.com/WildlingWomxn/status/839145479740997633

#WatershedWednesday:

#236 WWF South Africa announces their launch of the watershed initiative, that will motivate businesses to to participate in stopping the crisis. + link.
#WatershedWednesday, 14 Nov 2017 (Retrieved 3 May 2018)
https://twitter.com/WWFSouthAfrica/status/930689432109420544

#237 South African activist group calling the WW great awareness, and saying that they try to reduce water at their office.
#WatershedWednesday, #DayZero, 29 Nov 2017 (Retrieved 3 May 2018)
https://twitter.com/CentreEnvRights/status/935887974184767488

N/A #238 South African retailer claiming to support the initiative, and promotes water savings.
#WatershedWednesday, 28 Nov 2017 (Retrieved 3 May 2018)
https://twitter.com/WoolworthsGBJ/status/935773136445557248

N/A #239 Capetonian blogger sharing a picture of cupcakes made by a bakery supporting WW.
#WatershedWednesday, 29 Nov 2017 (Retrieved 3 May 2018)
https://twitter.com/RoxStarrDiaries/status/935798683488186368

N/A #240 Cape Town hotel asking guests to help with water saving for WW, providing tips and notes in the rooms.

74
N/A #241 Cape Town hotel shares example on how they save water; by giving discounts to people not ordering a glass and ice with their water bottle.

#WatershedWednesday, 29 Nov 2017 (Retrieved 3 May 2018)
https://twitter.com/HotelVerde/status/935872821670105088

ThinkWaterCT:

#242 Capetonian informing about consumption levels, and cheering on Cape Town.
#ThinkWaterCT, 1 Mar 2018 (Retrieved 3 May 2018)
https://twitter.com/Priyared/status/969181731902369792

N/A #243 Cape Town hotel sharing link on how they are their guest make efforts to save water.
#ThinkWaterCT, 10 Feb 2018 (Retrieved 3 May 2018)
https://twitter.com/OonKloofHotel/status/962303987054768129

#244 South African sharing picture of kids in the pak and decorations reminding people to think about water.
#ThinkWaterCT, 21 Feb 2018 (Retrieved 21 May 2018)
https://twitter.com/TishCharles/status/966564163031064576

#245 Cape Town media sharing a link to guidelines on how to use grey water.
#ThinkWaterCT, 8 Feb 2018 (Retrieved 21 May 2018)
https://twitter.com/respCPT/status/961864699997335553

#246 Department of Water and Sanitation says that illegal dams and water use have been found, and notices will serve the users.
#ThinkWaterCT, 23 Jan 2018 (Retrieved 21 May 2018)
https://twitter.com/DWS_RSA/status/955881024516390912

N/A #247 Cape Town hotel claiming to never use drinkable water for toilet flushes, but recycled water.
#ThinkWaterCT, 16 Jan 2018 (Retrieved 21 May 2018)
https://twitter.com/CCHotel/status/953492118751862785

#248 Patricia De Lille thanking cape town citizens for saving water, optimistic to beat dayzero.
#ThinkWaterCT, 8 Jan 2018 (Retrieved 21 May 2018)
https://twitter.com/PatriciaDeLille/status/950281565468348416
#249 Cape Town water action group of citizens sharing a picture of a poster in a bar, encouraging to not flush the toilets too often. Saying that whoever posted it did a great job. #ThinkWaterCT, 1 Feb 2018 (Retrieved 21 May 2018) https://twitter.com/wateractionCT/status/959162918985195522

#50LitreLife:

#250 City of Cape Town account sharing a link to information about living a life on 50 litres of water a day. #50LitreLife, 2 May 2018 (Retrieved 3 May 2018) https://twitter.com/CityofCT/status/991581866384818177

#251 City of Cape Town thanking people saving water and numbers of litres saved by month. #50LitreLife, 30 Apr (Retrieved 3 May 2018) https://twitter.com/CityofCT/status/990872788415246336

#252 Cape Town Water Crisis | South Africa, saying that the #50LitreLife is not good for the economy, water should be a flow and renewable as a resource and not a stock. #50LitreLife, 18 Apr 2018 (Retrieved 3 May 2018) https://twitter.com/CPTWaterCrisis/status/983650125494063104

#253 Cape Town Water Crisis | South Africa writing that the hashtag stands for the citizens to control and easily obliged to, but it is rather about survival. #50LitreLife, 10 Apr 2018 (Retrieved 3 May 2018) https://twitter.com/CPTWaterCrisis/status/983650125494063104

#254 Capetonian broadcaster saying that the #50LitreLife should not be used because water is not a stock. #50LitreLife, 4 Apr 2018 (Retrieved 3 May 2018) https://twitter.com/Bridgetti/status/981778999419506696

N/A #255 Capetonian informing that people can get a 50 Litre Life profile picture. #50LitreLife, 3 Apr 2018 (Retrieved 3 May 2018) https://twitter.com/mauricecarpede/status/981129401919506696

N/A #256 UK company sharing guide to calculate water consumptions, to promote savings. #50LitreLife, 26 Mar 2018 (Retrieved 3 May 2018) https://twitter.com/GrundfosUK_CIE/status/978269781689976834

#257 Capetonian hoping that Cape Town citizens will keep on saving water, even less than restrictions.
#258 Capetonian upset that Day Zero has been moved to 2019, saying the person’s neighbors have started to use much water again after announcement.
#50LitreLife, 21 Mar 2018 (Retrieved 21 May 2018)
https://twitter.com/JesssyZA/status/976549255476400129

#259 Cape Town Water Crisis | South Africa arguing that tourism will suffer if the #50LitreLife will still be displayed. Should only be crisis response, not life situation.
#50LitreLife, 31 Mar 2018 (Retrieved 21 May 2018)
https://twitter.com/CPTWaterCrisis/status/979977344432726016

#260 American sharing the information of 50 litre restrictions in Cape Town, saying that the tips can be used by anybody wanting to save water.
#50LitreLife, 27 Mar 2018 (Retrieved 21 May 2018)
https://twitter.com/barbmartinAWWA/status/978608673499987969

Analysis

**Framework usage areas** (Pre crisis 2017, End 6 March 2018)

1 **Provide and receive disaster preparedness information:**
   #157 (ind), #183 (ind), #188 (med), #225 (ind), #226 (ind), #227 (ind), #228 (ind), #230 (ind), #236 (org), #237 (org),

2 **Provide and receive disaster warnings**
   #158 (ind), #184 (org), #186 (med), #189 (ind), #234 (org),

3 **Signal and detect disasters**
   #232 (ind),

4 **Send and receive request for help or assistance**
   #36 (ind), #63 (ind),

5 **Inform others about one’s own condition and location and learn about a disaster-affected individual’s condition and location**
   #1 (Org), #11 (media), #27 (comm), #29 (ind), #31 (ind), #39 (ind), #40 (ind) #47 (ind), #73 (org), #86 (org), #102 (med), #103 (ind), #124 (med), #131 (med), #164 (med), #166 (ind), #192 (ind), #205 (ind), #207 (ind), #216 (ind), #223 (med),

6 **Document and learn what is happening in the disaster**
7 Deliver and consume news coverage of the disaster
#2 (ind), #13 (ind), #17 (ind), #20 (org), #23 (org), #45 (comm), #46 (ind), #68 (ind), #95 (ind), #108 (comm), #122 (org), #125 (gov), #134 (org), #144 (ind), #153 (org), #160 (comm), #165 (ind), #167 (ind), #171 (ind), #178 (comm), #179 (med), #190 (med), #194 (ind), #200 (med), #201 (gov), #203 (ind), #212 (med), #219 (ind), #224 (med), #244 (ind),

8 Provide and receive disaster response information, identify and list ways to assist in the disaster response
#5 (gov), #16 (comm), #18 (gov), #24 (med), #25 (med), #35 (med), #49 (med), #66 (med), #67 (med), #69 (med), #77 (med), #83 (gov), #84 (ind), #85 (gov), #87 (org), #88 (org), #89 (gov), #90 (org), #93 (gov), #97 (med), #98 (gov), #100 (med), #101 (med), #113 (med), #114 (med), #136 (ind), #138 (med), #151 (gov), #159 (med), #163 (med), #175 (med), #242 (ind), #246 (gov), #251 (gov), #19 (med)

9 Raise and develop awareness of an event; donate and receive donations; identify and list ways to help or volunteer
#21 (org), #30 (med), #34 (comm), #50 (med), #65 (org), #71 (comm), #72 (org), #80 (org), #109 (comm), #121 (org), #141 (ind), #180 (ind), #181 (ind), #198 (comm), #222 (ind),

10 Provide and receive disaster mental/behavioral health support
#56 (ind), #106 (ind), #107 (ind), #139 (ind), #161 (org), #217 (org),

11 Express emotions, concerns, well-wishes; memorialize victims
#4 (ind), #12 (ind), #22 (ind), #26 (ind), #41 (ind), #43 (ind), #64 (ind), #78 (ind), #145 (org), #173 (ind), #191 (ind), #197 (comm), #202 (ind), #248 (gov), #257 (ind),

12 Provide and receive information about (and discuss) disaster response, recovery, and rebuilding; tell and hear stories about the disaster
#10 (ind), #15 (ind), #32 (med), #33 (ind), #37 (ind), #38 (ind), #81 (ind), #82 (med), #105 (med), #120 (org), #127 (comm), #140 (comm, #142 (org), #154 (ind), #162 (org), #210 (org), #253 (comm),

13 Discuss socio-political and scientific causes and implications of and responsibility for events
#8 (ind), #55 (ind), #70 (gov), #128 (ind), #129 (ind), #132 (org), #133 (ind), #146 (org), #148 (org), #152 (org), #206 (ind), #215 (ind), #258 (ind),

78
14(Re)connect community members
#119 (comm),

15Implement traditional crisis communication activities
#7 (org), #116 (gov), #117 (gov), #118 (med), #126 (gov), #147 (gov), #149 (org),