

LEARNING FROM CRISIS

A series of modular learnings from the 2017-2018
Cape Town water crisis

☺☺☺ THE RESILIENCE SHIFT

THE CAPE TOWN
DROUGHT RESPONSE
LEARNING INITIATIVE

module

9

Feasibility of the Day Zero disaster plan

The Day Zero disaster plan, prepared for a worst case scenario, entailed the distribution of water to residents through a complex system of manual collection points. Whether the plan would have worked is contested.

Text component of module 9, accompanying the film www.vimeo.com/cinesouth/ctdri-trs-lfc-module-9

Duration: 32:20

Feasibility of the Day Zero disaster plan

From the start, in the planning for the Day Zero scenario within government, it was clear that the planning and preparation for it was going to be extensive, multifaceted and demanding, as it entailed challenges of public finances, logistics, communication, safety and security, and health risks, and would not work with the elderly and infirm, for whom alternative arrangements would have had to be made. The more it became clear how this manual water distribution system would work, the more it was understood within government how damaging it would be to the city and its residents, and that it had to be avoided at all costs. Once the implications of the Day Zero disaster plan were thought through, it became evident that it could bring parts of the economy to a standstill. There were serious concerns about the practicality of the plan. It could in fact only have worked as part of a bigger system. Many observers are of the opinion that there is no way it could have worked, and that if Day Zero had actually happened it would undoubtedly have been an absolute catastrophe for the city – an economic and humanitarian catastrophe, among others.



The feeling was that, yes, there would be water collection points, but we want society to carry on as normal; and I think once we started unpacking that we realised: well, just how realistic is this?

Feroz Koor

I don't know if ... I don't know how it would have worked, and thank heavens we didn't find out

Kim Kruyshaar

EXECUTIVE SUMMARY

- From the start, in the planning for the Day Zero scenario within government, it was clear that the planning and preparation for it was going to be extensive, multifaceted and demanding, as it entailed challenges of public finances, logistics, communication, safety and security, and health risks, and would not work with the elderly and infirm, for whom alternative arrangements would have had to be made
- The more it became clear how this manual water distribution system would work, the more it was understood within government how damaging it would be to the city and its residents
- It was understood within government that its biggest efforts had to be directed towards avoiding getting to that scenario, while at the same time the plan had to be worked out, in place and ready to be implemented should it become necessary
- Once business started unpacking the implications of the plan, it became evident that it could potentially bring parts of the economy to a standstill
- With water supply cut off in some areas but kept on in others, such as informal settlements or central business districts, you could have people descending on areas where water was still on, instead of queueing in their own residential areas
- It was also challenging to decide which areas were strategic business areas, and to define clear boundaries demarcating these; it was very difficult to figure out how you would keep the economy going
- Outside the city's reticulation system, water isn't very mobile: a simple point that becomes obvious when you start carrying water around in 25-litre containers
- There were serious concerns about the practicality of the plan; it could only have worked as part of a bigger system to take care of the elderly, the infirm and people working in essential services
- There was a lot of anxiety, anger, uncertainty and fear at the time; it is a scary conversation to map out what could have happened; if it went on for a few weeks, what you would effectively have is the world's largest refugee camp
- The Day Zero plan could only have worked as part of a bigger plan that included answers to questions such as how to provide the elderly and infirm with water
- If Day Zero had actually happened it would have been an absolute catastrophe for the city – an economic and humanitarian catastrophe, among others

Interviewees in order of appearance:**Feroz Koor**

Group head of sustainability: Woolworths

Kim Kruyshaar

Owner: Green Audits Into Action

Alderman Ian Neilson

Deputy Mayor: City of Cape Town

Councillor Xanthea Limberg

Mayoral Committee Member for Informal Settlements, Water and Waste Services and Energy, City of Cape Town

Councillor JP Smith

Mayoral Committee member for Safety and Security: City of Cape Town

George Gabriel

Social anthropologist, consultant and facilitator

Andrew Boraine

CEO: Western Cape Economic Development Partnership

Nardo Snyman

Sustainability specialist: Growthpoint Properties

André Roux

Director: Sustainable Resource Management, Western Cape government

Colin Deiner

Chief Director: Disaster Management, Western Cape government

Helen Davies

Chief Director: Green Economy, Western Cape government

Dr Gisela Kaiser

Previously Executive Director: Informal Settlements, Water & Waste, City of Cape Town

Claire Pengelly

Water programme manager: GreenCape

Full interviews on [Cape Town Drought Response Learning Initiative](#) website

Opinions expressed by interviewees are personal viewpoints
and do not necessarily reflect those of their organisations

STRUCTURE

00:00:05

Hooks:

- Once you started unpacking the concept of the water collection point system, you realised it was not realistic to expect that society would otherwise carry on as normal once this had been started (FK)
- I don't know how it would have worked, and thank heavens we didn't find out (KK)

00:00:50

CONCEPT ORIGINS; GOVERNMENT PLANNING

- The concept originated in disaster management planning
- From the start, in the planning for the Day Zero scenario within government, it was clear how extensive, multifaceted and demanding the required preparation for it was going to be
- The system entailed challenges of public finances, logistics, communication, safety and security, and health risks, and would not work with the elderly and infirm
- The more it became clear how it would work, the more it was understood within government how damaging it would be to the city and its residents
- It was understood within government, consequently, that its biggest efforts had to be directed towards avoiding getting to that scenario, while at the same time the plan had to be in place should it become necessary to implement it (IN, XL, JPS)

00:11:11

FAR-REACHING IMPLICATIONS

- Once business started unpacking the implications, it became evident that it could potentially bring parts of the economy to a standstill (FK)
- If it went on for a few weeks, you would effectively have the world's largest refugee camp (GG)
- With water supply cut off in some areas but kept on in others, you could have people descending on areas where water was still on (AB)
- There was a lot of anxiety, anger, uncertainty and fear (XL)
- Scary conversation, mapping out what could have happened (NS)
- Big concerns about the practicality of it (AR)
- System could only have worked as part of a bigger system (CD)
- Real headache to figure out how you would keep the economy going; there were a lot of gaps in the system (HD)
- Outside the city's reticulation system, water isn't very mobile (KK)
- There is no way it could have worked (GK)

00:30:33

ABSOLUTE CATASTROPHE

- If Day Zero had happened it would undoubtedly have been an absolute catastrophe: economic and humanitarian catastrophe (CP)

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- 00:00:50 The concept of Day Zero originated in disaster management planning.
- “Certainly it was the day on which our lives would have changed very dramatically. Because the more we got into looking at what was required for Day Zero and for that distribution system the more it became evident how it would completely damage our city, our populace, our way of life, our ability to create an income; people’s lives would be heavily damaged.”
- There were health risks, for example, that could arise from the sewerage system if it was not being flushed properly.
- Had to work out how many distribution points were needed, and how many taps per distribution point; the City built one to test how it would work in practice.
- Looked at safety issues and what kind of security the City would need to provide, “because the risk of public disorder obviously would be very, very high in those circumstances”.
- Had to look at how people would be able to transport a 25 litre canister to their home.
- Looked at elderly and the infirm: how would they get water? Started a process of working through community organisations to put in place a help system.
- Also worked together with bottling companies so they would bottle 1- and 2-litre bottles of water, and use their normal distribution systems to get it out to shops across the city.
- Also looked at supply of water to children at schools.
- 00:05:11 “We were doing everything in our power and pulling on a range of resources to avoid getting to that worst-case scenario, but at the same time, as a responsible government we needed to make sure that we actually had a plan in place that was well-resourced and well-thought-out and well-planned to deal with that worst-case scenario.”
- During weekends and after hours a range of departments in the city government were working on planning the points of distribution system.
- “All of that planning was going towards putting a disaster plan in place, so that at the point ever we needed to initiate the points of distribution that we were ready to do so. So all of those things were happening as of the time that myself and the deputy mayor were leading the drought response and essentially there was regular monitoring of how effective we were in terms of the implementation of all of these interventions.”

00:06:49 A lot of discussion inside city government around how communication should work and what preparations needed to be for these distribution points; also the very last point at which city government could pull the trigger to implement the plan, because it came with a price tag of several hundred million rand, “to implement large water collection points, managing the additional infrastructure that had to go in for that, the logistics, the staff implications, and the disruptive impact on the rest of service delivery, never mind the dire consequences for everybody’s day to day life.”

00:07:23 “It was very clearly, once one looked at it, that the scenario of that happening would just be so damaging to our city, and to its future, that our biggest effort had to go into avoiding getting to Day Zero, and that’s essentially where we focused, but in the meantime parallel to that we had to get on with the planning of all of these sites.”

00:07:49 Water collection points would be rolled out a couple of weeks before; phasing in of Day Zero cut-offs to different areas would be staggered; “the cut-offs wouldn’t all happen simultaneously, and you would be able to implement new collection PODs, as we were referring to them, gradually whilst cutting off new areas continuously, a) so that you had a staggered implementation, so that you could manage the behaviour change required – it would be disruptive, it would have traffic implications, people would have to change their commuter patterns, etcetera – and if you tried to do that in one single go across the city the disruptions would be impossible to manage. So the saner approach would be a staggered series of cut-offs across the city, with about a month lead time at best, but you wouldn’t want to pull the trigger earlier than that.” If the points of distribution had been built in January 2018, the City would have spent several hundred million rand, which in the end it was able to avoid spending.

“From early on we realised that operationally with the points of distribution that the City’s available enforcement and emergency services resources and what the South African Police Service could supply, we would have difficulty having an adequate twenty-four-seven coverage at all the points of distribution to ensure safety and the effective running and zero disruptions at these facilities, and we started realising that civil society would need to help us manage these facilities, assisting people with carrying full water containers, managing the overall security of the site, assisting with the direction of vehicles and preventing blockages, and that we just didn’t have enough traffic officials to cover all, to have covered two hundred sites twenty four hours a day.”

Also realised there would be a sizeable proportion of the public that would not be able to access points of distribution.

“There were around two hundred identified points of distribution, with anything up to two hundred or more standpipes per point, and double-sided standpipes at

many of those, so we wouldn't have difficulty getting all the public to go through them every day. But that's easily calculated on a piece of paper. It's easy to calculate that you can get every single citizen in your city in a five to seven minute gap through one of these facilities and still have spare capacity, ... technically it's possible; logistically, however, making that happen, making sure that people distribute themselves equally across the city and that people don't for instance go the points nearest to their places of employment which would concentrate very large volumes of people trying to go on their way home with their motor vehicle to a few water distribution points so that effectively thirty or forty PODs were carrying the vast majority of the traffic, that would become challenging, both from a comms point of view and also from a disaster management, from the risk levels implied."

00:11:11 Forums were pulled together where city and provincial government engaged with business, starting September-October 2017. "There was the first time we got a sense from government, well this is what this means and this is what we're forecasting, and that focused the minds of everybody."

"One of the things we found, and this is no criticism to government, is that their initial planning from their perspective took into account where their expertise lay, but I think once they started engaging with business and we all started discussing what the potential impact is, a lot of things arose which potentially may have not been front of mind, because ultimately ... somebody at that meeting from government said you know, yes, we're envisaging Day Zero, this was the first time for example we heard of water collection points and all of this, so we knew about it a few months before they made it public and it was for us to do some planning, but what we also realised then is that perhaps there wasn't an appreciation of what the potential impact would be wider than that in the sense that I think the feeling was that yes there would be water collection points, but we want society to carry on as normal; and I think once we started unpacking that we realised: well, just how realistic is this?"

Thinking through the implications of a Day Zero, starting from the perspective of a retailer, made clear how disruptive such a scenario would be.

"And suddenly once we started thinking of this we realised that this is an impact that – literally we could have come to a standstill."

"Once you started thinking about it and unpacking it you realise that potentially you could have a situation where parts of your economy would come to a standstill."

00:15:43 "If Day Zero was just going to happen for two days we would be fine, but if it was going to go on for three weeks or longer it literally would be a change in how

society works. I mean, it would be easy to argue the basic foundation of modern civilisation is indoor plumbing. So not having water delivered to your taps is a big deal.”

“I mean, how do you deliver water to four million people? ... If Day Zero plus twenty were to happen, and we all had to stand in line to get water, what you would quickly experience is the world’s largest refugee camp, basically.”

00:17:36 Taps were going to be kept on in informal settlements. Problem that people from neighbouring communities where taps had been shut off might descend on areas where taps had not been shut off, with prospect of water wars. A similar problem existed around central business districts and industrial areas where water also would be left on, as people might steal water from work, effectively, rather than queueing for it in their residential areas. “So all these were tense questions swirling around in the debate, and for a while there were no answers – no one was stepping up and saying this is the way forward.”

00:19:16 “There was a lot of anxiety at that time, and anger, uncertainty, and, I think, fear, in what that eventuality, potential eventuality, may look like, and whether we would be able to manage it appropriately, given the scale of, you know, the city and the number of residents, and how when one is dealing with such a scarce resource, you know, you can’t necessarily control all aspects, particularly not human behaviour.”

00:19:57 Growthpoint Properties had excess water being pumped out of the basement at a building in Woodstock called The District; the implications of a Day Zero scenario became clear to them when they started realising the security risk if it would become known that they had water in the building when people did not have water. “You would have people bashing down doors, you know, regardless of LSM, trying to access this water. If you have no water for your family at home, and you hear about this building that has water, ... you’ll break in there to get it. So that was kind of when it kind of sank home, saying regardless of how well we prepare, what really happens when the taps run dry? ... I think it’s actually a scary conversation to be had if you actually map out what could potentially have happened.”

00:21:11 “It was really very, very difficult situation if we ever developed into that situation to actually practically have that working. The City did a lot of work from a technical side and the logistics side but we had big, big concerns about the practicality of providing water to people by queueing for water every day.”

00:22:03 “I think the points of distribution system could only have worked if it was part of a bigger system. It could not have worked on its own.” The reason for that is that a

lot of people such as the aged, the infirm or people working in essential services would not have been able to access it.

“Within the whole context of what was happening I think it was part of what could be a very good system, but not as a stand-alone system, I think there were too many other, you know, x-factors, if you like, the unknowns that might have impacted on it.”

Another concern was how long it would have taken for people to be able to move through the system.

“I think you know when you going in a prolonged kind of disaster like this you start getting a deterioration in people’s morale and issues like that and then it starts becoming a problem.”

Another concern was the spread of diseases through the contamination of containers.

“So I think it was a system that had a lot of merit to it, but it needed to work within a bigger picture.”

00:23:42

Work done by the provincial government with city government as a key partner to determine what the strategic economic zones were that should not be cut off. “But the key issue very quickly became how do you identify strategic business areas.” Problem that industrial areas are within much broader residential areas. A lot of businesses aren’t in any set nodes, and are dotted all over the city.

“It was a real headache in terms of trying to figure out how you could keep the economy going through a crisis should Day Zero have hit.”

Another concern was whether employees would even be able to get to work, whether they would rather queue for water for their households and families.

Another concern was how the transport system might be affected when people running the transport system are collecting water. Explored the idea of certain businesses providing what was called a sub-POD service, where the business would provide water to its employees.

“Thankfully we didn’t get to that point because I think there were a lot of gaps in that system that really hadn’t been resolved yet.”

00:26:06

“How it was actually going to work? How’re you going to get five thousand people, and you’d have to drive there, because you can’t carry that weight of water for any distance, so how it was all actually going to work was something we

were just hoping and praying we wouldn't have to face, and I think that's one of the biggest lessons that I learnt, is that outside of the city's reticulation system water isn't very mobile, if it's not raining. You know, how do you get it to your home?"

"I don't know if ... I don't know how it would have worked, and thank heavens we didn't find out."

00:27:45 "My viewpoint: truly for a city like Cape Town to run out of water, it would be pretty much like Armageddon."

"From my point of view our responsibility as a city, and especially for Water and Sanitation, was to make sure that it didn't happen. The fact is that the decision was taken in a boardroom far too quickly without any analysis, that points of distribution was the way to go ... Intermittent supply would have been far less traumatic for a city. I mean if you have points of distribution just the logistics around it, and then also the sanitation aspect, because I was always really, really worried about the sanitation aspect."

"To my mind the points of distribution would have had to be avoided at all costs, but the City wanted to have a disaster management plan for this, and they worked very well, and it's probably a world-class plan in terms of how plans go, but I ... thank the Lord that we didn't ever have to test it because there is no way on this planet that I think it could have worked."

00:30:33 "No I mean if we hit Day Zero I think that would have been an absolute catastrophe. I don't think there's any doubt about it."

"If that had actually happened, I think that would have been an economic catastrophe amongst a number of other catastrophes, humanitarian, etcetera, would have occurred if it had actually happened, ja."

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