


# Chapter 13

## Managing Climate Change Shocks: South African Wine Industry and Cape Town's Adaptation to the "Day Zero" Water Crisis

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### ABSTRACT

*In 2017, Cape Town faced a severe drought. The incident would possibly culminate in that city's taps being turned off by March 2018. The likely day of the city's water facilities completely running dry and leaving more than three million residents without water was labelled 'Day Zero'. Cape Town is part of the Western Province of South Africa which contains large stretches of vineyards which were highly affected by the drought. The South African wine industry, being one of the top major producers of wine in the world, stood to be severely affected. This chapter documents how the wine industry was impacted by this climate crisis and the adaptive mechanisms it implemented. Further, the incident provides a case example of how climate shocks may compel further futuristic thinking on the need to contemplate adaptive mechanisms by cities regarding managing future disruptive climate risks.*

### INTRODUCTION

Cape Town is part of the Western Province of South Africa which contains large stretches of vineyards which were highly affected by the drought. The South African

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wine industry, being one of the top major producers of wine in the world, stood to be severely affected. This chapter documents how the wine industry was impacted by this climate crisis and the adaptive mechanisms it implemented. The industry employed various strategies to curtail the adverse impact of the drought including participating in research and innovating on growing practices. The discussion will also distil some lessons that could be learnt from the ordeal. Further, the incident provides a case example of how climate shocks may impact on agricultural industries and compels further futuristic thinking on the need to contemplate sustainable innovations to manage future disruptive climate risks.

## **IMPACT OF THE CLIMATE CRISIS ON WATER SECURITY: GLOBAL OVERVIEW**

With the emergence of climate change crises ranging from floods and droughts, every global region has been prone to climate-associated disasters. It has been noted that over the past two decades, more than 80 metropolitan cities across the world have faced severe water shortages owing to droughts (Savelli et al., 2023). The issue of climate change has a large bearing on water scarcity being faced by cities. The Philippines' capital city region of Metro Manila has been experiencing severe water scarcity due to the recurrent El Niño phenomena, which is brought on by the anomalous warming of surface waters in the eastern Pacific Ocean (Lee et al., 2020). The El Niño phenomenon has also been a contributor to periodic droughts that have affected the southern African region including in South Africa.

The ongoing phenomenon of increasing urbanization is also set to place continuing additional pressure for water demand in cities across the world especially in developing country contexts whose cities are considered to have the lowest water security (Van Ginkel et al., 2018). Some cities in the global South are beginning to explore alternative water systems such as groundwater most notably in cities like Hermosillo (Mexico) and Mendoza (Argentina) amidst increasing urbanisation (Díaz-Caravantes et al., 2020). However, some regions are experiencing groundwater depletion challenges that make it a challenge to explore groundwater as an alternative option. For instance, groundwater has long been used in cities in the global South Asian region and so over-extraction of groundwater has seen steadily falling water tables in the Punjab regions of India and Pakistan (Sathre et al., 2022). The water security challenge remains one of the most formidable for growing urban centres to grapple with. Even with interventions like developing more cost-effective water infrastructure and technologies as well as progressive water pricing, it has been said that these technical-managerial remedies are insufficient to handle water emergencies if the underlying reasons are not found (Savelli et al., 2023, p. 933).

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