The impact of load shedding on the right to have access to sufficient water in vulnerable communities in South Africa

MA Mkansi



orcid.org 0000-0003-4705-5108

Mini dissertation accepted in fulfilment of the requirements for the degree Master of Laws with Public Law and Legal Philosophy at the North-West University

Supervisor: Ms RM Tsatsimpe

Graduation: October 2025

DECLARATION OF AUTHENTICITY

I declare that the mini-dissertation with the title "The impact of load shedding on the right to have access to sufficient water", is my own work and all the sources I have used and quoted, have been indicated and acknowledged by means of complete references.

Acknowledgment

First and foremost, I am deeply thankful to the Almighty for granting me the strength, guidance, and opportunity to embark on and complete this journey. Without His divine grace, this achievement would not have been possible.

My sincere appreciation goes out to my family and loved ones, whose steadfast encouragement, support, and faith in me have served as my cornerstone during this process. I will always be thankful for your love and support, which got me through the hardest times.

The last three years have been a time of tremendous development, tenacity, and fortitude. Although there were numerous difficulties, I learned important lessons from them that have influenced both my academic endeavours and my personal development. Today, as I submit this work, it is with a deep sense of hope and gratitude for everyone and everything that has contributed to this milestone.

ABSTRACT

This research investigates the impact of load shedding on the access to sufficient water as a constitutional right. Load shedding, which is a power supply interruption common in many developing African countries, particularly South Africa, has emerged as a hindering issue. The irregular power supply has significant consequences for various sectors. One critical area of concern is its effect on access to sufficient and clean water, particularly in vulnerable communities such as those with limited access to improved infrastructure and basic services. While the government is obligated to take reasonable, legislative and other measures to achieve this right, load shedding has emerged as a challenge that poses a threat to the realisation of this right.

This study aims to explore the effect of load shedding on water supply and how the failure of treatment and distribution systems during load shedding pose underlying threats to vulnerable communities. This study also aims to analyse the legal framework that governs the right to access to sufficient water with respect to the effect of load shedding.

This research was conducted by means of a systematic literature review. This method relies on multiple studies to answer the research question using rigorous methods. By the end of this research, it aims to contribute to the knowledge base on the intersection between load shedding and the constitutional right to have access to sufficient water. It also acts as a guiding tool for policy makers, vulnerable communities and utilities as they mitigate the effects of load shedding on water supply.

Key words: Clean water, constitutional right, load shedding, vulnerable communities, water security

TABLE OF CONTENTS

DECLARATION OF AUTHENTICITY.....

ABSTRACT iii

LIST OF ABBREVIATIONS viii

Chapter 1:

1.1 Problem statement 1

1.2 Background 7

1.3 Motivation 12

1.4 Research Question 13

1.5 Research aims and objectives 14

1.6 Research Method(s).....14

1.7 Relevance to the research unit.....15

Chapter 2: The analysis of the legal framework pertaining to access to water and government duties in realising the rights to access to water 17

2.1 Introduction.....17

2.2 South Africa's constitutional right to sufficient water as applicable to the regulatory frameworks 20

2.2.1 International legal framework on the right to access sufficient water21

2.2.2 Regional legal framework on the right to access sufficient water 23

2.3 South African Legislative framework governing water services 24

2.3.1 The Constitution of the Republic of South Africa, 1996.....24

2.3.2 The White Paper on Water Supply and Sanitation Services (1994)..27

2.3.3 The Water Services Act 108 of 1997).....28

2.3.4 The National Water Act 36 of 1998 29

2.3.5 The Local Government: Municipal Systems Act 32 of 2000 31

2.3.6 National Water Resource Strategy, 2004 32

2.4 The state's obligation to respect, promote, protect and fulfil the right to access to sufficient water in South Africa as a constitutional right 33

2.5 The limitations of the legal framework 34

2.5.1 Lack of provisions for power outages 35

2.6 Renewable solutions.....36

2.7 Conclusion.....36

CHAPTER 3: Analysis of the government's initiatives to mitigate disruptions to the right to access to sufficient water due to load shedding.....38

3.1 Introduction.....38

3.2 Analysis of the government's initiatives to mitigate disruptions 39

3.3 Government initiatives to mitigate disruptions of water supply due to load shedding 41

3.3.1 Key initiatives to alleviate load shedding 41

3.3.1.1 Revival of renewable energy procurement.....41

3.3.1.2 National Energy Crisis Committee 42

3.3.1.3 Increased private sector participation 44

3.3.1.4 Municipal procurement of power.....44

3.3.1.5 Load shedding relief packs 45

3.3.1.6 Protection of critical services 45

3.4 Challenges and gaps in implementation.....46

3.4.1 Dependence on aging infrastructure 46

3.4.2 Inequitable distribution of resources 47

3.5 Conclusion.....48

Chapter 4: Analysis of the effect of load shedding on the right to access to sufficient water on vulnerable communities 50

4.1 Introduction.....50

4.2 The impact of load shedding on access to sufficient water in vulnerable communities and on other rights in the Bill of Rights.....51

4.2.1 The right to education: Educational disruptions when load shedding limits access to sufficient water 51

4.2.2 The right to health.....53

4.2.3 The right to a healthy environment.....55

4.3 Conclusion.....57

Chapter 5: Conclusion and recommendations.....59

5.1 Conclusion.....59

5.2 Recommendations 61

5.2.1 Investment in alternative energy sources 61

5.2.2 Upgrading old infrastructure.....62

5.2.3 Public awareness campaigns 63

5.2.4 Development of policies 64

5.2.5 Collaboration with stakeholders 65

Reference List 67

LIST OF ABBREVIATIONS

NWA	National Water Act 36 of 1998
WSA	*Water Services Act* 108 of 1997
UDHR	Universal Declaration of Human Rights 1948
ICESCR	International Covenant on Economic, Social and Cultural Rights, 1966
WTP	Water treatment facilities
WWTP	Wastewater treatment plants
WSS	Water Supply and Sanitation
NMD	Notified Maximum Demand
CP	Community Participation
WA	Water Alternatives
SAGT	South African Geographical Journal
ESPR	Environmental Science and Pollution Research
IJCCSM	International Journal of Climate Change Strategies and Management
EPG	Environmental Policy and Governance
WHS	Water and Human Systems
OJWWC	Official Journal of the World Water Council
DSA	Development Southern Africa
ELJ	Electronic Law Journal
AHRJL	African Human Rights Journal Law
EATP	Educational Administration Theory and Practice
JELTAL	Journal of English Language Teaching and Applied Linguistics

REMIE	Multidisciplinary Journal of Educational Research
AJOL	African Journals Online
IJEM	International Journal of Educational Methodology
SAJP	South African Journal of Psychology
SAJA	South African Journal of Science
EHASS	E- Journal of Humanities, Arts and Social Sciences
STTE	Science of The Total Environment
EPCPS	Environmental and Planning C: Politics and Space
DMER	Department of Mineral Resources and Energy Policy
TPECET	The Political Economy of Clean Energy Transition
EDS	Environment Development and Sustainability
AJICL	African Journal of International and Comparative Law
IJJS	International Journal of Justice and Sustainability

Chapter 1

1.1 Problem statement

Load shedding, which is a controlled and planned interruption of electricity supply, has become a recurring issue in the country due to the strain on the national power grid.[1] The irregular power supply has significant consequences for various sectors, and one critical area of concern is its effect on access to sufficient and clean water. This particularly affects vulnerable communities such as those with limited access to good infrastructure and basic services.[2] In South Africa, access to clean water is recognised as a fundamental constitutional right, enshrined in the Bill of Rights. The *Constitution of the Republic of South Africa, 1996* [3] (hereafter *Constitution*) section 27(1)(b) states that "*everyone has the right to have access to sufficient water*," and the government is obligated to take reasonable legislative and other measures to achieve this right.[4] However, load shedding has emerged as a challenge that poses a threat to the realisation of this right.[5]

The persistent electricity crisis in South Africa, characterised by the recurrent occurrence of load shedding, has raised serious concerns about its multifaceted impact on the right to access clean water as a fundamental constitutional right.[6] Load shedding disrupts the normal functioning of water treatment plants, pumping stations, and distribution networks, impeding the consistent delivery of clean and safe water to vulnerable communities across South Africa.[7] This situation presents a pressing problem concerning the potential violation of citizens' constitutional right to access clean water.[8] Thus, the interruption of this critical service during load

---

1 Marope and Phiri 2023 *IJHMA* 859.
2 Lenoke 2017 The impact of load shedding on the economic growth of South Africa.
3 *Constitution of the Republic of South Africa*, 108 of 1996.
4 Okeke 2023 *Law Journal*, 19 (1).
5 Mohazzem 2023 *Engineering Reports* p. e12752.
6 Sabatino 2022 *CALUMET* 18-34.
7 Mabugu and Inglesi-Lotz 2022 *Energy Sources, Part B: Economics, Planning, and Policy* 17.
8 *Eskom Holdings SOC Ltd v Vaal River Development Association* (Pty) Ltd and Others Para 134.

shedding raises serious legal concerns about the protection and fulfillment of constitutional rights.[9]

Section 27(2) of the *Constitution* provides for "*the state to take reasonable legislative and other measures, within its available resources to achieve the progressive realisation of the right."*[10]The Limburg Principles assert that progressive realization does not imply that the State can defer indefinitely efforts for the full realization of the right.[11] In the case of *Soobramoney v Minister of Health, Kwa-Zulu Natal*, the Constitutional Court was of the opinion that there were restraint in resource available to the State and they argued that these limitations as a result of socio historical circumstances of South Africa limited the appellants rights.[12] This constitutional right, which acknowledges the importance of adequate water supply for all citizens, reflects South Africa's commitment to addressing historical disparities and ensuring equitable access to essential services.[13] Nevertheless, the right to have access to clean water is increasingly threatened by the interplay between load shedding and water supply infrastructure.[14]

Interruptions in the provision of clean water due to load shedding have significant well-being implications.[15] Access to clean water is essential for safe drinking water, sanitation, and hygiene. Inadequate access to clean water due to load shedding compromises basic sanitation practices, increases the risk of waterborne diseases, and threatens public health, particularly in vulnerable communities such as villages and townships that have little to no resources.[16]

In 2023, South Africa experienced the worst load shedding yet, reaching Stage 6. It entailed a total of 6 950 hours without electricity.[17] In 2023, load-shedding stages

---

9 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* Para 134.
10 The *Constitution of the Republic of South Africa*, 108 of 1996.
11 Chenwi Unpacking progressive realisation *DEJURE* 39.
12 *Soobramoney v Minister of Health, Kwa-Zulu Natal*, 1997 (12) BCLR 1696 (CC).
13 Liebenberg and Bradley 2023 *Federal Law Review*.
14 Liebenberg and Bradley 2023 *Federal Law Review*.
15 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* Para 103.
16 Roux and Jansen van Rensburg 2019 *Water SA* 45(4), 571-582
17 Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours.

were put in place for an average of 22.9 hours each day.[18] South Africans endured blackouts for about 6.2 hours per day.[19] This was an increase from the rotational time of 10.4 hours each day, with 2.3 hours of blackouts during 2022.[20] Furthermore, compared to just 10% in 2022 and 2.1% in 2021, over a quarter (26%) of each day in 2023 was spent without power.[21]

The continuing crisis highlights the moral and ethical complexities stemming from water interruptions due to load shedding. It touches on issues of fairness, transparency, and responsible energy usage.[22] It creates a difficult challenge, demanding careful consideration of mitigation measures alongside a commitment to equitable distribution of resources.[23] Transparency in decision-making processes is crucial to foster trust and accountability in communities affected by these disruptions.[24]

Moreover, addressing this problem necessitates a comprehensive approach that balances immediate concerns with long-term sustainability goals.[25] Emphasising responsible energy consumption practices becomes imperative amid such challenges, as individuals and institutions alike are called upon to contribute to effective solutions.[26] In navigating this issue, stakeholders must collaborate to mitigate the impact of load shedding while upholding ethics principles and ensuring equitable outcomes for all involved.[27]

---

18 Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours
19 Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours
20 Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours
21 Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours
22 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
23 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
24 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
25 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
26 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
27 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf

In the South African setting, there exists literature on concerns of water insecurity and removal of municipal water services in the rural sector of the Limpopo province.[28] One study examined the relationship between water security, and load shedding, and emotional distress was examined to improve access to water services.[29] Although research has established various barriers to the implementation of water and sanitation safety plans, Malima examined the difficulties and strategies that are involved in portable, clean water supply systems, in the rural areas of Vhembe District Municipality.[30] Governments, utility companies, and individuals all have roles to play in addressing the moral and ethical challenges associated with load shedding as vulnerable communities such as the Mangaya village bear the brunt of these adverse consequences.[31]

Mangaya is one of the most affected villages. It lacks infrastructure such as boreholes, clean tap water and municipal water tanks.[32] Whereas, if the stipulated sources cannot function, this may oblige the surrounding communities to faces serious potential health risks.[33] Because this village collects water from sources that are unhealthy such as rivers and springs, they are more likely to contract waterborne illnesses such as cholera.[34]

Load shedding's unequal impact exacerbates existing social and economic disparities in South Africa.[35] Communities such as Mangaya that are vulnerable and have no infrastructure to mitigate the current load shedding situation, often located

---

28 Mbana and Sinthumule 2024 *WHS* 1354477.
29 Mbana and Sinthumule 2024 *WHS* 1354477.
30 Pindihama and Malima 2022 *AJGD* 256-275.
31 Mokgwathi *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local Municipality* (Doctoral dissertation, University of the Witwatersrand, Faculty of Science 2018).
32 Mokgwathi *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local Municipality* (Doctoral dissertation, University of the Witwatersrand, Faculty of Science 2018).
33 Mokgwathi *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local Municipality* (Doctoral dissertation, University of the Witwatersrand, Faculty of Science 2018).
34 Mokgwathi *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local Municipality* (Doctoral dissertation, University of the Witwatersrand, Faculty of Science 2018).
35 Inglesi-Lotz 2023 *SAJS* 119(9/10).

in marginalised areas that are economically exclude, are disproportionately affected by water supply interruptions due to load shedding.[36] This unequal burden threatens to perpetuate systemic inequalities by limiting access to clean water, hindering educational opportunities, compromising economic productivity, and diminishing overall quality of life.[37] Thus, access and sufficient drinking water constitutes a fundamental prerequisite for the realisation of various human rights, encompassing the rights to education, housing, health, and life.[38] Consequently, this issue has deep-seated social and economic implications that require comprehensive examination.[39]

This crisis extends to environmental sustainability concerns. Load shedding disrupts water supply infrastructure, which can result in reduced water quality, increased pollution due to system disruptions, and potential ecological harm.[40] Load shedding affects water quality by disrupting water treatment processes, potentially leading to health risks from contaminants.[41] Additionally, system disruptions during load shedding increase pollution by allowing untreated sewage into water bodies, resulting in the release of pollutants from industrial facilities such as sulphur dioxide, nitrogen oxides, and other toxic chemicals[42] These environmental ramifications pose long-term challenges for South Africa's ecosystems and biodiversity, adding an environmental dimension to the problem.[43]

The Vhembe District, of South Africa's Limpopo province situated in the northern region, includes four distinct local municipalities, namely Collins-Chabane, Makhado, Musina, and Thulamela.[44] These municipalities are predominantly rural,

---

36 Inglesi-Lotz 2023 *SAJS* 119(9/10).
37 Inglesi-Lotz 2023 *SAJS* 119(9/10).
38 United Nations Human Rights Fact Sheet no 35.
39 Inglesi-Lotz 2023 *SAJS* 119(9/10).
40 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
41 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
42 Umfula Wempilo Consulting Engineering 2019 https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf
43 Langerman *et al* 2023 *Clean Air Journal* 1–2.
44 Murei and Momba 2022 *Barriers to Water and Sanitation Safety Plans in Rural Areas of South Africa-. A Case Study in the Vhembe District, Limpopo Province*. Water1244.

characterised by diverse populations with varying religious, educational, and socio-economic backgrounds, and within these communities, there are notable disparities in water and sanitation infrastructure.[45] Notably, the Vhembe District Municipality faces significant challenges related to water scarcity, with a substantial portion of its villages relying exclusively on contaminated surface-water sources such as dams and rivers where even animals drink.[46] Moreover, with the current interruptions due to load shedding, these communities are without water for days.[47] As a result, clean water is not just a matter of convenience, rather it is a matter of life[48] as it is essential for drinking, cooking, sanitation, and hygiene.[49]

The plans by the South African government to dismantle Eskom into three main units that will be responsible for the generation, transmission and distribution has been announced.[50] In addition to these immediate steps, the government is actively pursuing a comprehensive strategy to eliminate load shedding as swiftly as possible.[51] This strategy delineates five key interventions, each with precise actions and timelines, to combat the electricity deficit.[52] These interventions address the following goals: stabilising Eskom and enhancing the reliability of the current power supply, advancing and expediting private investment in electricity generation capacity, speeding up the acquisition of additional capacity from renewable sources, gas and battery storage, permitting businesses and households to capitalise in

---

45 Murei and Momba 2022 *Barriers to Water and Sanitation Safety Plans in Rural Areas of South Africa-. A Case Study in the Vhembe District, Limpopo Province*. Water 1244.

46 Murei and Momba 2022 *Barriers to Water and Sanitation Safety Plans in Rural Areas of South Africa-. A Case Study in the Vhembe District, Limpopo Province*. Water 1244.

47 Murei and Momba 2022 *Barriers to Water and Sanitation Safety Plans in Rural Areas of South Africa-. A Case Study in the Vhembe District, Limpopo Province*. Water 1244.

48 Hove and Van der Merwe 2019 *BMJ Volume 4.*

49 Hove and Van der Merwe 2019 *BMJ Volume 4.*

50 South African Commercial Guide 2024https://www.trade.gov/country-commercial-guides/south-africa-energy

51 Energy Action Plan. 2023. One Year Progress Report 2023. https://www.stateofthenation.gov.za/assets/downloads/Update_on_energy_action_plan_AUG23pdf

52 Energy Action Plan. 2023. One Year Progress Report 2023. https://www.stateofthenation.gov.za/assets/downloads/Update_on_energy_action_plan_AUG23pdf

rooftop solar solutions, and introducing a fundamental transformation of the electricity sector to ensure long-term energy security.[53]

In light of these multifaceted challenges, there is an urgent need for a comprehensive analysis of the impact of load shedding on the right to access clean water in South Africa. Such an analysis involves examining the legal framework surrounding the right to water, assessing the practical consequences of load shedding on water supply and quality, and proposing evidence-based policy recommendations to mitigate these effects. This dissertation delves into the complex interplay between load shedding and access to clean water. However, within this context, it is essential to acknowledge that vulnerable communities such as the villages and townships in the Limpopo province with limited resources, often face additional challenges when confronted with interruptions in clean water provision due to load shedding. These communities, while not the primary focus of this study, serve as a poignant illustration of the wider implications of the research.

1.2 Background

South Africa is a nation marked by rich diversity, complex history, and significant socio-economic challenges.[54] One of the most fundamental challenges the country faces is the reliable provision of essential services, including clean water and electricity.[55] While the right to access clean water is constitutionally guaranteed in South Africa, the country has grappled with persistent issues related to access, quality, and the sustainability of water supply systems.[56]

South Africa has had a chronic electricity crisis since 2007, when it was hit by its first significant wave of load shedding.[57] Load shedding is defined as a deliberate

---

53 Energy Action Plan. 2023. One Year Progress Report 2023. https://www.stateofthenation.gov.za/assets/downloads/Update_on_energy_action_plan_AUG23pdf

54 Habiyaremye, King and Tregenna 2022 https://www.uj.ac.za/wp-content/uploads/2021/10/sarchi-wp-2022-03-habiyaremye-king-tregenna-march-2022.

55 Steyn 2022 *SAPL*.

56 Steyn 2022 *SAPL*.

57 de Jong 2021 Powering Justice: Redefining a Just Energy Transition through a South African Lens.

and controlled electricity cuts implemented by the national electricity utility, Eskom, to prevent the complete collapse of the national power grid.[58] It can be assigned to a sequence of factors, including underinvestment in electricity infrastructure, technical problems at power stations, and rising demand.[59] The crisis, however, is primarily driven by the country's strained energy infrastructure.[60] This infrastructure is characterised by aging power plants, inadequate capacity, and inefficiencies in both energy generation and distribution.[61]The issue is exacerbated by inadequate financial systems and technical capacity, along with inadequate water governance systems.[62] As a result of these issues, load shedding has become a regular occurrence in South Africa, with schedules for planned power outages affecting both townships and rural areas.[63]

The right to sufficient and clean water is a fundamental constitutional right in South Africa.[64]It is enshrined in the country's post-apartheid Constitution, which was established in 1996.[65] Specifically, section 27(1)(b) of the *Constitution* states *"Everyone has the right to have access to sufficient food and water."*[66] This constitutional agreement reflects South Africa's commitment to addressing historical inequalities and ensuring that all citizens have access to essential services, such as clean and safe drinking water.[67] The recognition of water as a basic human right is consistent and grounded in international human rights instruments.[68] The Universal Declaration of Human Rights (1948)[69], although not legally binding, establishes the foundational right to an adequate standard of living, which implicitly includes access to water. This framework was later explicitly developed in the International Covenant on Economic, Social and Cultural Rights (ICESCR) of 1966[70], a treaty that

---

58 https://loadshedding.eskom.co.za/LoadShedding/Description
59 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
60 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
61 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
62 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
63 Jahns 2023 *EHASS*.
64 The *Constitution of the Republic of South Africa*, 108 of 1996.
65 The *Constitution of the Republic of South Africa*, 108 of 1996.
66 Section 27 (1) (b) of the Constitution of the Republic of South Africa, 108 of 1996.
67 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
68 *CESCR*, General Comment No. 15, UN Doc. E/C.12/2002/11 (2002).
69 *Universal Declaration of Human Rights*, 1948.
70 *International Covenant on Economic, Social and Cultural Rights*, 1966

South Africa signed in 1994 and ratified in 2015, which mandates states to progressively realize socio-economic rights.[71] The UN Committee on Economic, Social and Cultural Rights (General Comment No. 15, 2002) clarified that these obligations include the right to sufficient, safe and accessible water.[72]

In 2010, the international recognition of water as a distinct human right reached a pivotal moment with the United Nations General Assembly's adoption of Resolution 64/292, explicitly affirming the rights to safe and clean drinking water and adequate sanitation.[73] This was reinforced by the Human Rights Council through Resolution 15/9, which emphasized that these rights are intrinsically linked to the right to an adequate standard of living, the highest attainable standard of health, and fundamental rights to life and dignity.[74] While the African Charter on Human and Peoples' Rights does not explicitly mention the right to water, the Commission has interpreted it.[75] These developments did not create new obligations but clarified and consolidated existing state duties under international human rights law, elevating access to water from an implied component of socio-economic rights to an autonomous, universally recognized entitlement.[76] Consequently, the right to water now occupies a central position in international law, influencing the interpretation of existing treaties and shaping the expectations for regional and domestic legal systems, including South Africa's, underscoring water's critical importance as a fundamental human right essential to dignity and well-being.[77]

In *Free Legal Assistance Group and Others v Zaire,*[78] the Commission held that should the government fail to provide basic services such as safe drinking water as well as electricity, constitutes a violation of article 16 on the right to health.[79]

---

71 Olayinka OF 2019 *AJICL* 564-587.
72 *CESCR*, General Comment No. 15, UN Doc. E/C.12/2002/11 (2002)
73 *UNGA*, The human right to water and sanitation, A/RES/64/292 (2010).
74 *UNGA*, The human right to water and sanitation, A/RES/64/292 (2010).
75 *AHRLJ* Volume 11 No 2 2011.
76 AHRLJ Volume 11 No 2 2011.
77 AHRLJ Volume 11 No 2 2011.
78 *Free Legal Assistance Group and Others v Zaire* para 47.
79 *Free Legal Assistance Group and Others v Zaire* para 47.

Water security is also of paramount importance in the South African context, where the reliable provision of clean water faces multifaceted challenges.[80] Beyond issues of access and quality, water security encompasses the broader goal of ensuring a sustainable and resilient water supply for the entire nation.[81] South Africa's historical context and ongoing socio-economic challenges further underscores the importance of achieving water security.[82] Load shedding increases an additional layer of complexity to the issue, putting additional strain on water resources and heightening the urgency of effective water management.[83] The consequences of load shedding is exacerbated by past inequalities, with disadvantaged communities affected more severely.

In the pursuit of water security, it is imperative for South Africa to address not only the immediate challenges of load shedding but also the underlying systemic issues contributing to water vulnerability.[84] This includes investing in modernising and expanding water infrastructure, improving water governance, and implementing efficient water management practices.[85] By adopting a holistic approach that considers the interconnectedness of water, energy, and socio-economic factors, South Africa can forge a path towards a more secure and sustainable water future.[86] Recognising the pivotal role of water security in achieving broader development goals, policymakers can work towards building a resilient and equitable water infrastructure that withstands the challenges of today and tomorrow, ensuring that all citizens can exercise their constitutional right to access clean water without compromise.[87]

---

80 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
81 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
82 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
83 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
84 Hausmann and Sturzenegger *Growth Through Inclusion in South Africa. Center for International Development at Harvard University* 434.
85 Hausmann and Sturzenegger *Growth Through Inclusion in South Africa. Center for International Development at Harvard University* 434.
86 Hausmann and Sturzenegger *Growth Through Inclusion in South Africa. Center for International Development at Harvard University* 434.
87 Hausmann and Sturzenegger *Growth Through Inclusion in South Africa. Center for International Development at Harvard University* 434.

Water security is a pressing and globally relevant issue, gaining increasing significance in the contemporary context where freshwater resources are becoming increasingly scarce.[88] The repercussions of water insecurity are particularly severe for marginalised and impoverished segments of society, amplifying social and economic disparities. The challenge extends beyond South Africa's borders, contributing to a worldwide dilemma surrounding freshwater availability.[89] In the South African context, historical imbalances persist, complicating efforts to ensure a consistent and equitable water supply for all citizens.[90] The intricate web of diverse interests in water management, coupled with the constraints of existing laws and policies, underscores the ongoing need for the judiciary to play a pivotal role.[91] Courts are essential in navigating the complexities of these competing interests by interpreting and enforcing laws and policies that guide water use and allocation.[92]

Given the centrality of the right to access clean water in South Africa's *Constitution* and the critical role that clean water plays in people's lives, any threats to this right, such as those posed by load shedding, raise significant legal, ethical, and social concerns. This is particularly relevant for people in disadvantaged communities such as those facing social and economic hardships and with limited access to vital resources such as education and health care due to factors like poverty and discrimination that.[93] Therefore, it is imperative to thoroughly analyse the impact of load shedding on access to clean in South Africa to ensure the protection and realisation of this constitutional right for all citizens.[94] The Constitutional Court of South Africa noted in *Mazibuko v City of Johannesburg* that entrenchment and protection of water rights in South Africa stems from the fact that water is life.[95]

---

88 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
89 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
90 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
91 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
92 Qumbu 2021 Potchefstroom Electronic Law Journal 24(1).
93 Sriramakrishnan P 2022 *IJLMH*
94 Sriramakrishnan P 2022 *IJLMH*.
95 *Mazibuko and Others v City of Johannesburg and Others* Para 1.

The Electricity Regulation Act 4 of 2006 provides for universal access to electricity, as well as the right to electricity.[96] To safeguard the rights of consumers, by prohibiting electricity suppliers from terminating or reducing electricity excepts in cases where consumers become insolvent or have violated payment conditions obligated by licenses, this statute stands as a guide.[97] However, load shedding is the scheduled interruption of electricity due to the limitations on the national grid, which occur when power plants break or are overused.[98] It is a deliberate reduction in electrical load, reducing customers at certain points on the transmission or distribution systems.[99]

In *Joseph and Others v City of Johannesburg and Others* Skweyiya J allowed the application for leave to appeal and also upheld the appeal thus reversing the order of the High Court.[100] Because the termination of electricity supply in Ennerdale was declared to be unconstitutional, the city was ordered to reconnect the building with electricity supply as it violated various right, including and not limited to the right to access sufficient water.[101]

1.3 Motivation

The motivation for this study stems from the critical importance of access to clean water as a constitutional right in South Africa and the significant impact that load shedding has on water availability and quality. Load shedding, a practice implemented by the national power utility to balance electricity supply and demand, has become a recurrent challenge in South Africa due to energy supply constraints.[102] The irregular power supply during load shedding has far-reaching consequences for various sectors, with potential implications for water access[103], which is a fundamental human right recognised by the South African *Constitution*.

---

96 S 2(d) of the *Electricity Regulation Act* 4 of 2006.
97 Dube and Moyo 2022 *PELJ*.
98 Dube and Moyo 2022 *PELJ*.
99 Dube and Moyo 2022 *PELJ*.
100 *Joseph and Others v City of Johannesburg and Others* Para 76.
101 Joseph and Others v City of Johannesburg and Others Para 76.
102 Nowakoska and Tubisi 2015 *JPSRA*
103 Laher, Van Aardt and Malinga 2019 *SAMJ* 899–901.

Water is an essential resource for human survival, health, and well-being.[104] The right to access clean water is enshrined in the *Constitution*, reflecting the government's commitment to ensuring water security for all citizens.[105] However, load shedding disrupts water supply systems, including water treatment plants, distribution networks, and pumping stations, leading to intermittent access to clean water. Vulnerable communities, especially those in informal settlements and rural areas, bear the brunt of the impact of load shedding as they often lack alternative water sources during power outages.[106]

The motivation for this study is to understand the extent of the impact of load shedding on the right to have access to clean water, particularly in disadvantaged communities. By exploring the challenges and vulnerabilities these communities face, the research seeks to bring attention to the potential violations of the constitutional right to water security. Understanding the socio-economic implications of load shedding on water access is vital for advocating inclusive and effective policies that address the needs of the most marginalised populations.

Furthermore, this study is motivated to evaluate the government's responses and measures in mitigating the effects of load shedding on water access. While the government has undertaken various initiatives to manage load shedding, it is essential to assess the adequacy and inclusivity of these measures in ensuring continuous and equitable access to clean water. The findings of this research may inform policy and decision-making processes to strengthen water infrastructure resilience and enhance water security during load shedding.

1.4 Research Question

How does load shedding affect the right to have access to sufficient water in vulnerable communities in South Africa?

---

104 Rodina 2016 *Geoforum* 58-66.
105 Soyapi 2017 *PER*.
106 Elum, Modise and Marr 2017 *CRM* 246–257.

1.5 Research aims and objectives

The aim of a study is to explore the impact of load shedding on the right to access clean water as a constitutional right in South Africa. The objectives are:

1. To assess the impact of load shedding on water access in vulnerable communities across South Africa, particularly in disadvantaged communities, by examining the frequency and duration of water supply disruptions during power outages;

2. To evaluate the effectiveness of the government's interventions and measures in mitigating the adverse effects of load shedding on water infrastructure, treatment plants, and distribution networks, and their implications for maintaining water quality and safety; and

3. To identify potential strategies and policies that promote equitable and continuous access to clean water during load shedding, with a specific focus on vulnerable communities, in order to uphold the constitutional right to water security for all South Africans.

1.6 Research Method(s)

The research method chosen for this study is a systematic literature review. A literature review is a critical analysis of published sources on a specific topic, aimed at synthesising existing knowledge and identifying gaps in literature.[107] In this case, the systematic literature review focused on the impact of load shedding on the right to access clean water as a constitutional right in South Africa.

A systematic literature review is a rigorous and structured approach to gathering, analysing, and interpreting relevant literature on a particular subject.[108] It involves a comprehensive search for primary and secondary sources, followed by a meticulous selection process based on predefined inclusion and exclusion criteria.

---

[107] Frankenreiter and Livermore 2020 *Annual Review of Law and Social Science* 39-57.
[108] Bauman 2021 Critical legal studies: A guide to the literature

This method is particularly suitable for the resolution of the research problem as it allows for a thorough examination of the existing body of knowledge related to the impact of load shedding impact on water access and its implications for constitutional rights. As a systematic literature review involves the analysis of previously published works, there are no direct ethics considerations as there would be when there is data collection from human participants. However, the researcher adhered to the relevant ethics principles in conducting the review, including giving proper credit to the original authors and sources, and adhering to copyright regulations.

Chapter 1 comprises of the introduction and overview of the study research topic, the problem statement, research question, preview of the research process and the research framework. Chapter 2 delves into the analysis of the legal framework pertaining to access to water and government duties in realising the rights to access to water. Chapter 3 analyses the government initiatives to mitigate disruptions. Chapter 4 analyses the impact of load shedding on the right to access sufficient water in vulnerable communities in South Africa and chapter 5 summarises the study by means of providing the conclusion and recommendations to the study.

1.7 Relevance to the research unit

This study addresses a critical issue at the intersection of human rights, environmental justice, and socio-economic vulnerabilities, aligning well with the research unit's focus on promoting sustainability and advancing justice for vulnerable communities. The study's focus on the impact of load shedding on the right to access clean water directly ties in with the theme of Vulnerable Societies. Load shedding disproportionately affects disadvantaged communities in South Africa, including those living in informal settlements and impoverished areas. These vulnerable societies face heightened challenges in accessing clean water during power outages, which significantly affects their health, well-being, and overall quality of life. By shedding light on the experiences of these vulnerable communities, the research project contributes to understanding the specific justice issues they

face in accessing basic amenities like water and highlights the urgent need for solutions to address their socio-economic vulnerabilities.

Chapter 2: The analysis of the legal framework pertaining to access to water and government duties in realising the rights to access to water

2.1 Introduction

Chapter 2 addresses objective 2 of the study which is to analyse the legal and policy framework which regulate the access to sufficient water in South Africa. It examines Constitutional, statutory, regional, and international instruments that define government duties in realising the right to sufficient water while highlighting both obligations and implementation challenges. To properly situate this analysis, it is essential to first consider the historical and structural challenges that shape the current water sector in South Africa which has had a direct bearing on the delivery of basic services, including access to water.

In the history of South Africa, the year 1994 holds great significance as it marked the end of apartheid, which was characterised by racial inequalities in the supply of basic services, and heralded the beginning of a democratic era that prioritised equal access to basic services.[109] At the time of the South Africa's first democratic elections in 1994, approximately 20% of the population had no access to piped clean water, with significant variations between different municipalities.[110] The African National Congress (ANC) government, led by the late President Nelson Mandela, recognised the need to address the country's water, supply and sanitation (WSS) challenges in this context.[111] As a response to this disparity, the ANC government introduced various reforms, including the adoption of the *Constitution* in 1996.[112] Following the advent of democracy in South Africa, public policy directives emphasised the transformation of the water and sanitation sector.[113] The focus was on developing and implementing strategies to provide safe drinking water and sanitation services,

---

109 Kubanza 2021 *SAGJ*.
110 Lebek, Twomey and Krueger 2021 *WA* 271–292.
111 Lebek, Twomey and Krueger 2021 *WA* 271–292.
112 Ncube and Sibanda 2021 140.
113 Ncube and Sibanda 2021 140

particularly to the previously disadvantaged black populations who had suffered under colonial and apartheid rule.[114]

The transition to democracy in South Africa also led to the adoption of democratic constitutional principles in the delivery of WSS. These key principles include section 27(1)(b) of the *Constitution,* which recognises the right of *"everyone to have access to sufficient water*,"[115] section 9 of the *Constitution,* which is the equality clause that emphasises the importance of equal protection and benefit of the law,[116] and section 10 of the *Constitution,* which states "*that everyone has inherent dignity and the right to have their dignity respected and protected*".[117] Access to sufficient water is closely linked to the realisation of human dignity. Furthermore, the democratic transition has meant that public participation and accountability are enshrined in section 195 of the *Constitution.*[118] This section outlines the basic values and principles that govern public administration, promotes accountability, transparency, and public participation in policy-making processes.[119] In the water and sanitation sector, this principle requires inclusive decision making that involves affected communities.

Moreover, the South African *Constitution* outlines the principles that underlie the democratic transition. These principles emphasise the importance of environmental protection and the sustainable use of natural resources, including water.[120] It mandates the three spheres of government to guarantee everyone the right to an environment that is not harmful to their well-being.[121]

In light of cooperative governance as described in chapter 3, the *Constitution* mandates all three spheres of government in South Africa, the national, provincial, and local, to work together to ensure the practical realisation of this right, especially

---

114 Ncube 2022 Current Directions in Water Scarcity Research 4, 227–242.
115 Section 27(1)(b) of the *Constitution of the Republic of South Africa*, 108 of 1996.
116 Section 9 of the *Constitution of the Republic of South Africa*, 108 of 1996.
117 Section 10 of the *Constitution of the Republic of South Africa*, 108 of 1996.
118 Section 195 of the *Constitution of the Republic of South Africa*, 108 of 1996.
119 Section 195 of the *Constitution of the Republic of South Africa*, 108 of 1996.
120 Section 24 of the *Constitution of the Republic of South Africa*, 108 of 1996.
121 Section 24 of the *Constitution of the Republic of South Africa*, 108 of 1996.

for those in vulnerable communities.[122] It formulates water and sanitation laws and programmes in collaboration with provincial and municipal authorities to extend water, supply and sanitation to these vulnerable communities.[123] The national government is responsible for providing guidelines and requirements to both provincial and local governments for the effective delivery of water, supply and sanitation due to load shedding.[124] The national government is also responsible for monitoring objectives and budgets, with the Minister of Water and Sanitation as well as Eskom overseeing the process to ensure a progressive and efficient WSS model nationwide, particularly for vulnerable communities.[125] This policy framework also leads to the development of national water and sanitation codes.[126]

The provincial government plays a crucial role in delivering WSS in South Africa, aligning with national legislation, policies, and strategies.[127]The provincial government's responsibility is to ensure the effective implementation of basic services, such as clean and adequate water, in their relevant provinces, while upholding the national legal framework.[128]Provincial authorities are responsible for regulating and coordinating water and sanitation procedures to efficiently supply the communities with sufficient water.[129]

Local government, as the sphere closest to the people, has a fundamental role to play in providing water supply.[130] Municipalities are responsible for the continuous distribution of basic services such as sufficient water to their communities.[131] However, these municipal responsibilities must be carried out in alignment with national and provincial water and sanitation policies.[132] While the three spheres of government in South Africa maintain their independence in functions, municipalities

---

122 The *Constitution of the Republic of South Africa*, 108 of 1996.
123 Omotayo *et al* 2021 *ESPR.*
124 Omotayo *et al* 2021 *ESPR.*
125 Omotayo *et al* 2021 *ESPR*.
126 Lebek, Twomey and Krueger 2021 *WA* 271–292.
127 Mouton Motshabi, Jeje and Henrico 2024 *World Water Policy* 821-858
128 Bishoge 2021 *IJJS* 893–907.
129 Bishoge 2021 *IJJS* 893–907.
130 Malemane "The Role of NGOs in Participatory Local Governance for Improved Service Delivery in Khayelitsha" (Master of Arts University of Johannesburg 2020).
131 Bishoge 2021 *IJJS* 893–907.
132 Lebek, Twomey and Krueger 2021 *WA* 271–292.

must ensure that their actions and strategies for water, supply and sanitation align with constitutional provisions.[133] As a result, national-level laws and regulations for water governance and sanitation services take precedence over policies or strategies developed at the provincial and local levels.[134] Municipalities are encouraged to collaborate with provincial governments to uphold the right to sufficient water for all.[135]The government's obligation to respect the right to water has been enforced in numerous cases, including the case of *Manqele v Durban Transitional Metropolitan.*[136]

The right to access sufficient water is fundamental as it ensures survival and the well-being of the bearers of the right.[137] This right, alongside other socio-economic rights such as the right to education, are infringed as the recurring issue of load shedding has in the past years raised concerns about the state's ability to meet its constitutional obligations.

Having outlined the historical and structural context that continues to shape access to water in South Africa, particularly the intersection between apartheid legacies, service delivery backlogs, and the disruptive effects of load shedding, it becomes necessary to examine the normative legal framework that governs this right.

2.2 South Africa's constitutional right to sufficient water as applicable to the regulatory frameworks

With the dawn of a new democratic era, South Africa witnessed the emergence of water and sanitation laws, policies, strategies, and programmes following the demise of the apartheid regime and the establishment of democracy in 1994.[138] The principle behind water governance legislation and policies, which include the South African *Constitution* as the cornerstone of access to sufficient water, is sustainable and inclusive governance to ensure that all citizens can engage meaningfully in

133 Harry and Malepane 2021 *SAJIP*.
134 Harry and Malepane 2021 *SAJIP*.
135 Harry and Malepane 2021 *SAJIP*
136 *Manqele v Durban Transitional Metropolitan* 2002 (6) SA 423.
137 Section 27(1)(b) of the *Constitution of the Republic of South Africa*, 108 of 1996.
138 Kubanza 2021 *SAGJ*.

democracy through the equal access to essential services. It also addresses basic human needs while promoting democratic participation, social equity, and accountability.[139] However, despite the presence of a legal framework advocating for access to sufficient water within the realm of water governance, the provision of water in this domain remains somewhat limited.[140] The legislation and policies governing water have not yet yielded the desired outcomes in terms of effective provision of basic services, such as ensuring the sustainable delivery of sufficient water to vulnerable communities amidst the challenging issue of load shedding.[141]

Scholars, exemplified by Lebek, Twomey and Krueger, have recently described the failures in achieving effective access to clean water as a shortcoming in the execution of local public policies.[142] Even though policies and regulations were established with commendable goals, South Africa still faces considerable challenges in guaranteeing a consistent, secure, and uncontaminated water supply.[143]

These shortcomings at the domestic level cannot be fully understood without reference to the broader normative framework developed under international law and regional law, which sets standards that South Africa is obliged to consider and implement.

2.2.1 International legal framework on the right to access sufficient water

The right to access sufficient water is not explicitly expressed in the most well-known United Nations treaties namely the Universal Declaration of Human Rights (1948) and the International Covenant on Civil and Political Rights (1966).[144] Nevertheless, this omission was progressively rectified in subsequent treaties and authoritative interpretations, which have since established water as an essential component of the right to an adequate standard of living and the right to health.[145]

---

139 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
140 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
141 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
142 Lebek, Twomey and Krueger 2021 *WA* 271–292.
143 Mocwagae and Mphambukeli 2023 *Planning for Effective and Sustainable Water Access and Provision*105-126.
144 Heleba 2009 *ESR* Review 7.
145 Heleba 2009 ESR Review 7.

Given that human rights are universally recognised as interrelated, interdependent, and indivisible, the right to water although not always expressly expressed may be implied in a number of foundational international instruments. These include the Universal Declaration of Human Rights (1948)[146], the International Covenant on Civil and Political Rights (1966)[147], and most notably Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966), which collectively establishes the normative basis for recognising water as essential to an adequate standard of living and to the highest attainable standard of health.[148]

Article 11 of ICESCR recognises the right to an adequate standard of living, a right that cannot be realised without sufficient access to water.[149] Furthermore, Article 12 enshrines the right to the highest attainable standard of physical and mental health, which likewise presupposes reliable access to safe and clean water.[150] Together, these provisions create a normative foundation for interpreting water as an essential component of both livelihood and health.[151] In this regard, the Committee on Economic, Social and Cultural Rights, through General Comment No. 15 (2002), affirmed that States parties are obliged to ensure the availability, accessibility, acceptability, and quality of water, and to progressively realise these obligations within their jurisdictions.[152]

South Africa signed the ICESCR in 1994 but only ratified it in 2015, thereby affirming its commitment to the progressive realisation of socio-economic rights, including access to water.[153] This ratification strengthens the interpretive authority

---

146 General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant) Agenda, 11, p.29.

147 General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant) Agenda, 11, p.29.

148 General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant) Agenda, 11, p.29.

149 Article 11 of the International Covenant on Economic, Social and Cultural Rights, 1966.

150 Article 12 of the International Covenant on Economic, Social and Cultural Rights, 1966.

151 General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant) Agenda, 11, p.29.

152 General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant) Agenda, 11, p.29.

153 Olayinka OF2019 *AJICL*564-587.

of the Covenant in the domestic legal order, particularly when read in light of section 39 of the Constitution, which obliges courts to consider international law when interpreting the Bill of Rights.[154] As such, South Africa's constitutional and statutory water rights cannot be viewed in isolation but must be situated within this broader international human rights framework.

2.2.2 Regional legal framework on the right to access sufficient water

The African Charter on Human and People's Rights (hereafter referred to as the African Charter),[155] in the regional level provides the same scope of understanding as the United Nations Conventions, where the right to water is not expressed explicitly. However, it does provide for the right to health and to a satisfactory environment right that cannot be meaningfully attained without access to safe and sufficient water.[156] Accordingly, the right to water is implied, as was affirmed in Free *Legal Assistance Group and Others v Zaire*,[157] where the African Commission on Human and Peoples' Rights held that the failure to provide basic services, including safe drinking water, constituted a violation of the right to health and related rights provides for in Article 16.[158] A similar approach was adopted *in Sudan Human Rights Organisation and Another v Sudan*,[159] where it was said that the Sudanese government had poisoned local water sources and failed to appear before the Commission to refute the claims. The Commission found Sudan to be in violation of the rights to health and to a satisfactory environment, and, by implication, of the right to water.[160]

While the right to access sufficient water is not directly expressed in either the international instruments or regional provisions, its recognition has developed progressively through interpretation by commissions and courts. The African

---

154 Section 39 of the *Constitution of the Republic of South Africa*, 1996.
155 The African Charter on Human and People's Rights, (1981).
156 The African Charter on Human and People's Rights, (1981).
157 *Free Legal Assistance Group and Others v Zaire* para 48.
158 *Free Legal Assistance Group and Others v Zaire* paras 47 & 48; Article 16 provides that "*Every individual shall have the right to enjoy the best attainable state of physical and mental health*".
159 *Sudan Human Rights Organisation and Another v Sudan* Para 8.
160 *Sudan Human Rights Organisation and Another v Sudan* Para 206-211.

Commission has set notable precedent in affirming that access to water is indispensable to the enjoyment of other fundamental rights.[161] Because human rights are interrelated and interdependent, the right to water has been read into existing rights such as the right to life, the right to the highest attainable standard of health, and the right to an adequate standard of living. The judiciary bodies have played a central role in this process, recognising that these rights cannot be realised without sufficient, safe, and accessible water. The evolution of jurisprudence in this regard underscores the judiciary's essential role in giving substance and enforceability to the right to water.

2.3 South African Legislative framework governing water services

2.3.1 The Constitution of the Republic of South Africa, 1996

Water is recognised as a fundamental human right in accordance with chapter 2 of the *Constitution*.[162] Section 27(1) (b) of the *Constitution* explicitly states, *"Everyone has the right to have access to sufficient water*"[163] and guarantees the right of everyone to have access to sufficient water that is clean and accessible. Consequently, it is the government's mandatory duty to ensure the consistent delivery of sufficient water to communities.[164] This entails that the government, together with its subsidiaries, have an obligation to provide sufficient water to the country, whether or not it is amidst the challenge of load shedding.[165] Section 27(2) further requires the state *to adopt reasonable and other legislative measures within the context of the state's available resources to progressively realise this right*.[166]

As previously discussed, the three spheres of government, namely the national, provincial, and local governments, are tasked with collaborating to provide essential services such as water and sanitation.[167]The *Constitution* clearly defines their

---

161 The African Charter on Human and People's Rights, (1981).
162 The *Constitution of the Republic of South Africa*, 108 of 1996.
163 Chapter 2 of the *Constitution of the Republic of South Africa*, 108 of 1996.
164 Lebek, Twomey and Krueger 2021 *WA* 271–292.
165 The *Constitution of the Republic of South Africa*, 108 of 1996.
166 Section 27 (2) of the *Constitution of the Republic of South Africa*, 108 of 1996.
167 Omotayo *et al* 2021 *ESPR*.

respective roles and responsibilities.[168]The *Constitution* states that both the national and provincial governments must provide assistance and support to municipalities to provide water and electricity to the people, particularly those serving vulnerable communities.[169] However, translating these constitutional rights into tangible socio-economic improvements has proven to be a complex and slow process.[170]The existence of the constitutional provisions and the current living conditions in South African vulnerable communities is limited.[171] Therefore, the right to access sufficient water, as enshrined in the *Constitution*, does not automatically guarantee water provision, particularly for vulnerable communities.[172]

This constitutional framework is further substantiated by a set of laws that include the *National Water Act 36 of 1998*[173], the *Water Services Act 108 of 1997*[174], the *National Norms and Standards for Domestic Water and Sanitation Services* established[175] in 2017, and the *Municipal Systems Act of 2000*.[176] Collectively, these legal frameworks assign the responsibility for managing water resources and providing water services to all levels of government, including national, provincial, and local authorities. The national Department of Water and Sanitation serves as the custodian of the nation's water resources, with the primary role of ensuring the protection, responsible use, development, conservation, and equitable management of water for the benefit of all individuals.[177] Additionally, it establishes national policy guidelines and standards for the delivery of water services.[178]

The supply of local water and sanitation services is an obligation bestowed to the district, metropolitan, and authorised local municipalities.[179] These entities are

---

168 Omotayo *et al* 2021 *ESPR*.
169 Omotayo *et al* 2021 *ESPR*.
170 Hara *et al* 2021 *Microbiology Spectrum*. Augmentation of an engineered bacterial strain potentially improves the cleanup of PCB water pollution
171 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
172 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
173 *National Water Act* of 1998.
174 *Water Services Act* of 1997.
175 National Norms and Standards for Domestic Water and Sanitation Services of 2017.
176 *Municipal Systems Act* of 2000.
177 Ncube and Sibanda 2021 140.
178 Ncube and Sibanda 2021 140.
179 Netswera 2022 *CJLG.*

mandated to ensure the effective delivery of sufficient water.[180]The national and provincial governments have the authority to administer and ensure that the local government fulfils its functions.[181] In cases where a municipality falls short in delivering water services, the executive council of a province has the option to assume the responsibilities of the municipality.[182]

In the case of *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* it was cited that in February 2020, Eskom made the took a judgement to limit the supply of bulk electricity to municipalities, adhering to the prescribed notified maximum demand (NMD) levels as stipulated in the supply agreements.[183] This decision meant that they would not be able to provide electricity exceeding the agreed NMD levels to these municipalities.[184] While Eskom communicated this reduction decision to the municipalities, the residents were left uninformed.[185] The decision was applied in 2020 and ensued in a series of rotating power outages in the municipalities.[186] These power interruptions had a extreme effect on critical services, particularly the provision of sufficient water and the operation of sewage treatment facilities.[187] Immediately the electricity supply was disrupted, water treatment plants ground to a halt.[188] Consequently, the public experienced water shortages, and various industrial and various profitable activities, including the poultry industry and nearby abattoirs in the affected areas, were forced to cease operations. Concurrently, sewage began spilling onto the streets of the affected communities and found its way into the Vaal River.[189]

---

180 Netswera 2022 *CJLG.*
181 Netswera 2022 *CJLG*.
182 Netswera 2022 *CJLG*.
183 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.
184 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15
185 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.
186 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.
187 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.
188 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.
189 *Eskom Holdings SOC Ltd v Vaal River Development Association (Pty) Ltd and Others* para 15.

2.3.2 The White Paper on Water Supply and Sanitation Services (1994)

In 1994, following the birth of a new democratic state in South Africa, the White Paper on Water Supply and Sanitation Services was developed.[190] Facing the pressing issue of water insecurity, the government needed to swiftly formulate a policy to usher in transformative changes in the water and sanitation sector.[191] Therefore, this White Paper on Water Supply and Sanitation Services was meant to improve the provision of WSS as a basic utility services to all people with the spirit of correcting the wrongs done by the colonial and apartheid regimes where particular black South African citizens were denied this fundamental right.[192]

As proposed by Lebek, Twomey and Krueger, the White Paper on Water Supply and Sanitation Services aims to enhance the Water Security and Sanitation services through proposing solutions for the insufficient access of water and sanitation services aiming at households, particularly vulnerable communities.[193] This White Paper further highlighted community participation in the achievement of good and efficient water governance in South African communities.[194] Furthermore, the policy required the government, especially the municipal government, to coordinate with different stakeholders and the communities themselves to ensure the processes connected to WSS.[195]

In a consolidated application in the case of *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others,* the State said that failures to provide electricity by state organs as a result of preventable circumstances constitute violations of constitutional rights.[196] The court acknowledged that the irregular supply of electricity violates the rights to healthcare, education, and access to

---

190 Rankoana 2020 *IJCCSM*.
191 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
192 The *White Paper on Water Supply and Sanitation Services* (1994)
193 Lebek, Twomey and Krueger 2021 *WA* 271–292.
194 Kiss et al 2022 *EPG*.
195 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
196 *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others* Para 16.

sufficient water, all of which are essential for upholding human dignity. The findings of the court confirm that load shedding affects many basic human rights.[197]

2.3.3 The Water Services Act 108 of 1997)

The *Water Services Act*, 108 of 1997 (hereafter referred to as the WSA) was enacted by the government to uphold the provision of WSS as mandated by the *Constitution*.[198] The WSA further establishes comprehensive guidelines for municipalities to oversee the detailed management of water resources.[199] Its primary focus is on the provision and management of water services to households, including the regulation of tariffs to promote efficient water use.[200] It mandates the implementation of lower tariff structures to support vulnerable communities with low incomes.[201] In addition to outlining the principles for WSS, a key objective of this legislation was to establish national standards and norms to enhance the efficient delivery of water supply.[202] Section 11(1) of the WSA mandates that every water service authority within their service jurisdiction is obligated to ensure the gradual achievement of water services that are both efficient, cost-effective, and sustainable for all consumers.[203] This section aligns with the WSA's overarching goal of rectifying historical disparities in water access amongst South African citizens.[204]

Section 2(a) of the WSA describes a fundamental objective of the Act, which is to guarantee the "*entitlement to access a fundamental water supply and the entitlement to fundamental sanitation, essential for the provision of adequate water and a safe environment conducive to human health*".[205] This objective can be achieved through the authority the *Constitution* grants local government.[206] In

---

197 *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Othe*rs Para 16.
198 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
199 Mosupye "Analysis of the right to have access to sufficient water in South Africa" (Mini dissertation North-West university 2023).
200 Mosupye "Analysis of the right to have access to sufficient water in South Africa" (Mini dissertation North-West university 2023).
201 Mosupye "Analysis of the right to have access to sufficient water in South Africa" (Mini dissertation North-West university 2023).
202 Ncube 2022"Perspectives on water management and its challenges in South Africa" 227–242.
203 Section 11 (1) of *The Water Services Act*, 108 of 1997.
204 Maphela and Cloete 2020 *DSA* 540.
205 Section 2(a) of *The Water Services Act*, 108 of 1997.
206 Section 2(a) of The Water Services Act, 108 of 1997.

accordance with Schedule 4 Part B of the *Constitution*, local government is vested with administrative powers to ensure the delivery of water and sanitation services in a sustainable manner.[207] The WSA, therefore, imposes an obligation on municipalities, acting as water authorities, to uphold and realise the right to access sufficient water. Local government is an integral component of ensuring that the needs of community members are met.[208]

Additionally, section 3(1) of the WSA affirms the universal applicability of the right to basic water supply, emphasising that water institutions are obliged to take reasonable measures to ensure the fulfilment of this right. The WSA mandates water service authorities to establish a water services development plan, which should be integrated into the broader development plans of municipalities.[209] Therefore, water service authorities bear the responsibility of supplying water to citizens.

The Act also gives the Minister of Water Affairs the responsibilities of regulating water service and ensuring compliance with the national water standards.[210] However, these powers are imposed within a legal framework that does not contemplate an organised way of addressing electricity shortages and the effects on water services, which leads to a legal vulnerability in face of load shedding. Though the WSA considers long-term sustainability, it lacks provisions for dealing with emergencies such as power shortage where water delivery can be a major issue. This lack of legal measures makes load shedding an issue to be addressed with contingency plans on how water systems will cope with the same pressure applied by load shedding.

2.3.4 The National Water Act 36 of 1998

The government also enacted the *National Water Act* 36 of 1998 (hereafter *National Water Act*) to remedy the historical injustices, particularly with reference

---

207 Schedule 4 Part B of the *Constitution of the Republic of South Africa*, 108 of 1996.
208 Mosupye Analysis of the right to have access to sufficient water in South Africa.
209 The *Water Services Act*, 108 of 1997.
210 The *Water Services Act*, 108 of 1997.

to water and sanitation services.[211] This legislation serves as the legal foundation for the management of water resources in South Africa.[212] It lays down the fundamental concept of "fair and sustainable access" to water, guaranteeing the allocation of water resources in an equitable and environmentally responsible way.[213] The law underscores the imperative of giving precedence to access to water for basic human requirements.[214]

The primary objective of the *National Water Act* was to bring substantial reforms to water resource legislation, to repeal certain outdated laws, and to address related matters.[215] Rooted in the South African *Constitution*, this act operationalises the right to sufficient water by furnishing legal directives for water and sanitation to government bodies, including municipalities.[216] The Act emphasises the significance of fairness in water provisioning, thereby placing an obligation on the government to advance equality in the delivery of water and sanitation services.[217] However, disruptions caused by load shedding create inequities in water access, especially in the vulnerable communities where electricity cuts are more frequent or prolonged. This entails that the longer load shedding persists in these communities, the less access there is to sufficient water.[218]

Furthermore, the concept of community participation in water governance and sanitation services is also explicitly delineated in the *National Water Act*.[219] The Act calls upon municipalities to foster inclusive water governance, marked by, among

---

211 South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial year.
212 South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial year.
213 South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial year.
214 South Africa 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial year.
215 South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial year.
216 Lebek, Twomey and Krueger 2021 *WA* 271–292.
217 Lebek, Twomey and Krueger 2021 *WA* 271–292.
218 Lebek, Twomey and Krueger 2021 *WA* 271–292.
219 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.

other things, substantial community participation.[220] Consequently, various community participation mechanisms such as public meetings should be used to facilitate the effective provision of WSS.[221]

The Act also requires that the water management organisations ensure proper and equitable use of the obtainable resources in addition to sustainable use of water.[222] Load shedding affects the availability and use of water resources.[223] It therefore impedes this framework by impairing water infrastructure from functioning as designed.

While load shedding may pose a threat in the realisation of the right to access sufficient water, it is in the powers of the state to ensure that the realisation of this right is achieved by means of another other forms to access sufficient and clean water within these vulnerable communities. In the case of *United Democratic Movement and Others v Eskom Holdings SOC Ltd*[224], a relief was sought in the part that in order to show respect to the users of electricity that are directly supplied by Eskom shall ensure that there will be no interruption in the supply of basic services due to load shedding to entities that are responsible for the provision of water National Water Act.

2.3.5 The Local Government: Municipal Systems Act 32 of 2000

On the other hand, the *Local Government: Municipal Systems Act* 32 of 2000 (hereafter the *Systems Act*) establishes the fundamental principles, mechanisms, and processes essential for municipalities to ensure the provision of basic services, including water and sanitation services.[225] Section 78 of the *Systems Act* is of particular significance to water services, as it mandates municipalities to follow a process when deciding whether to allow an institution to provide municipal services such as water.[226] Given that local governments are constitutionally mandated to

---

220 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573.
221 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
222 Lebek, Twomey and Krueger 2021 *WA* 271–292.
223 Lebek, Twomey and Krueger 2021 *WA* 271–292.
224 *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others* para 7.
225 *Municipal Systems Act* 32 of 2000.
226 Section 78 of the *Municipal Systems Act* 32 of 2000.

facilitate access to water services, this Acts play a pivotal role in water management in South Africa.

The primary responsibility of the local government is to guarantee that communities have access to sufficient water.[227] In the past, it was established that only district municipalities held the authority for water services, while local municipalities could become water service authorities through specific authorisation.[228] However, this perspective has undergone a significant shift following the *Mshengu v Msuduzi Local Municipality* case.[229] In this case, the High Court ruled that all municipalities, regardless of their status, are now recognised as water service authorities and are obligated to provide essential services to the communities within their jurisdiction.[230]

It is therefore imperative for municipalities to grant communities the right to access to sufficient water. However, this has inconsistent as municipalities are unable to provide the basic right to water during load shedding. This affects South Africa as a country, with more suffering endured by the vulnerable communities who are in no position to fight for their right.

2.3.6 National Water Resource Strategy, 2004

In 2004, the South African government introduced the National Water Resource Strategy to operationalise various water policies, including the White Paper on Water Supply and Sanitation Services.[231] This strategy takes a comprehensive approach to water management, aligning with the National Development Plan (NDP) in South Africa.[232] As per the Department of Water and Sanitation, it serves as the legal framework for implementing the *National Water Act*[233], obligating all relevant authorities and institutions to adhere to its provisions.[234] The strategy recognises

---

227 Local Government: *Municipal Systems Act* 32 of 2000
228 Chamberlain and Khonou 2021 *AHRLJ* 589. S83 and S84 *Local Government: Municipal Structures Act* 117 of 1998.
229 *Mshengu Others v Msuduzi Local Municipality & Others para* 50.
230 *Mshengu & Others v Msunduzi Local Municipality & Others para* 50.
231 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
232 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
233 *National Water Act 36* of 1998.
234 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573

water as a pivotal instrument for driving economic development, acknowledging the close link between water security, unemployment, and poverty in South Africa.[235] It underscores the essential connection between water allocation and socio-economic issues like hunger, aiming to allocate water resources to alleviate poverty and promote gender and racial equity[236]. Furthermore, it calls for the protection of water resources, integrated catchment management, and water conservation, emphasising the importance of ensuring a consistent water supply to stimulate employment opportunities.[237] Therefore, the National Water Resource Strategy should be viewed in conjunction with other critical government development frameworks, such as the NDP.[238]

2.4 The state's obligation to respect, promote, protect and fulfil the right to access to sufficient water in South Africa as a constitutional right

In section 7(2), the *Constitution* upholds the ethics of the state, places a duty on the state to respect, protect, promote, and fulfil the rights outlined in the Bill of Rights.[239] Different human rights impose varying obligations on the state, and this involves respecting, protecting, and fulfilling specific rights.[240] These obligations, as specified in section 7(2), aim to rectify the imbalances of the past imposed by the state. The obligation to respect signifies that the State must abstain from interfering with the exercise of constitutional rights.[241] Its purpose is to ensure that the State does not infringe on the established constitutional rights.[242] In the context of the right to access to clean water, this obligation becomes pertinent when the State fails to respect this right, especially in the current situation where load shedding limits the realisation of this right.

---

235 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
236 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
237 Ncube 2022. perspectives on water management and its challenges in South Africa 227–242.
238 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573
239 Section 7(2) of the *Constitution of the Republic of South Africa*, 108 of 1996.
240 Winkler 2008 Law, Social justice & Global development Journal 4.
241 Mosupye "Analysis of the right to have access to sufficient water in South Africa"(Mini dissertation North-West university 2023).
242 Winkler 2008 Law, Social justice & Global development Journal 4.

The responsibility to promote fundamental rights entails that the State is required to foster and actively work towards the actualisation of these rights, including the task of raising public awareness[243]. On the other hand, the duty to fulfil fundamental rights such as the right to access clean water mandates that the state must undertake suitable legal, administrative, financial, judicial, and other actions to achieve the realisation of this right.[244]

Therefore, the duty to fulfil means that the government must implement essential legislative, economic, and administrative measures to guarantee the actualisation of the right to access an adequate and clean water supply.[245] In situations where individuals are unable to afford bottled, clean, and safe water during load shedding, the state must take essential steps to ensure that water is both affordable and readily available to all, thus achieving the minimum essential standard of water access.[246]

2.5 The limitations of the legal framework

The current legal framework that regulates access to water is seriously challenged by the persistent load shedding problem in South Africa.[247] The right to sufficient water is guaranteed by the *Constitution* and a number of legislative laws, including the *National Water Act* and the WSA.[248] However, these laws fall short in addressing outside variables like electricity outages that have an immediate influence on the provision of water services.[249] This oversight draws attention to a weakness in the legal framework's capacity to handle modern issues, notably those pertaining to infrastructure resilience and energy security.[250]

---

243 J de Visser 2003 Realising the right of access to water: Pipe dream or watershed?
244 J de Visser 2003 Realising the right of access to water: Pipe dream or watershed?
245 J de Visser 2003 Realising the right of access to water: Pipe dream or watershed?
246 J de Visser 2003 Realising the right of access to water: Pipe dream or watershed?
247 South Africa's Water Law and Policy Framework 2007 *IELRC*
248 National Water Act 36 of 1998.
249 South Africa's Water Law and Policy Framework 2007 *IELRC*
250 South Africa's Water Law and Policy Framework 2007 *IELRC*

2.5.1 Lack of provisions for power outages

Although South Africa's water rules are extensive, they do not specifically address interruptions brought on by power outages.[251] Water treatment facilities, pumping stations, and other vital water infrastructure are affected by load shedding, and this results in interrupted water supply, especially in vulnerable communities.[252] The *National Water Act* and the *WSA* do not contain any contingency measures, so municipalities are left without clear guidance on how to continue providing water consistently when electricity is limited.[253]

Due to a lack of funding and established procedures, municipalities are frequently forced to come up with their own ad hoc solutions, which can be inconsistent and inefficient.[254] Local governments bear an extra burden as a result of this gap as they are tasked with maintaining water services while lacking the resources, both financial and legal, to deal with interruptions caused by electricity.[255]

In the case of *South African Human Rights Commission and Others v Madibeng Local Municipality and Others*,[256] the South African Human Rights Commission found that the municipality's failure to provide consistent, clean, and sufficient water forcing residents to rely on sporadic and unsafe water tank deliveries violated the constitutional right of access to sufficient water under section 27, as well as the right of access to information under section 32.[257] The Commission emphasised that socio-economic rights require municipalities to take reasonable and transparent measures, in line with the Water Services Act and constitutional obligations, to progressively realise access to basic services. It ordered both interim of increased water deliveries, removal of impurities and long-term remedial measures, thereby

---

251 Mbazira C 2007 *ESR.*
252 Mbazira C 2007 *ESR.*
253 Mbazira C 2007 *ESR.*
254 Mbazira C 2007 *ESR.*
255 Mbazira C 2007 *ESR.*
256 *South African Human Rights Commission and Others v Madibeng Local Municipality and Others* para 3.
257 *South African Human Rights Commission and Others v Madibeng Local Municipality and Others* para 3.

underscoring the state's duty to ensure reliable water provision, particularly for vulnerable communities.[258]

2.6 Renewable solutions

Plans for infrastructure development and budgets for municipalities today frequently lack the technical and financial support needed to include renewable energy sources.[259] Despite the growing frequency of load shedding, the legal framework neither requires nor encourages municipalities to investigate or adopt alternative energy solutions.[260] The lack of foresight in the legislative framework decreases the ability of communities to fulfil their commitments under the *WSA* and other regulations.[261] Furthermore, national policies on renewable energy are not often linked to policies pertaining to the delivery of water services.[262] Maintaining the relevance of the legal framework in the face of modern issues would require a more integrated approach that connects water rights, energy security, and infrastructure resilience.[263]

2.7 Conclusion

The issue of water governance in South African vulnerable communities is characterised by the inadequate provision of clean water supply and sanitation services, as highlighted by Harry and Malepane.[264] Upon closer examination of the current strain on the access to sufficient water due to load shedding, this research aims to analyse the pivotal role of ineffective water governance in South Africa as the root cause of this pressing problem. The history of water governance in the

---

258 *South African Human Rights Commission and Others v Madibeng Local Municipality and Others* para 3.

259 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety in-south-africa/

260 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety in-south-africa/

261 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety in-south-africa/

262 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety in-south-africa/

263 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety in-south-africa/

264 Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573

country reveals a persistent pattern of policy implementation failures, resulting in an ongoing disconnect between the demand for and supply of clean and sufficient water in vulnerable communities.[265]

While there are several contributing factors to the poor state of water governance in South Africa, this paper places particular emphasis on the absence of comprehensive policies as one of the principal barriers to achieving effective water governance during load shedding. This chapter delved into the effectiveness of the legislation that has been put into place in South Africa to ensure the realisation of access to sufficient and clean water as a constitutional right. To this end, it is noteworthy that the South African government has, since the advent of democracy in 1994, diligently developed and implemented various legislative measures and strategies aimed at enhancing the effectiveness of water supply.

While there are significant gaps in the current legal framework intended to safeguard citizens' rights in South Africa, load shedding and water access rights are combined. Policymakers should integrate energy resilience into water management policies, as load shedding threatens the quality and quantity of water. This could entail creating new regulations or amending current laws to specifically address the problems caused by unstable electrical supplies, guaranteeing that South Africans can exercise their constitutional right to enough water even in the face of continuous power outages.

The next chapter examines how the government has used its initiatives to mitigate the disruptions caused by load shedding to achieve the fulfillment of the right to access sufficient water.

---

[265] Tyhotyholo and Ncube 2023 *Utilities Policy*, 82, 101573

CHAPTER 3: Analysis of the government's initiatives to mitigate disruptions to the right to access to sufficient water due to load shedding

3.1 Introduction

As South Africa continues to struggle with the persistent challenge of load shedding, the citizens' fundamental right to access clean water remains consistently threatened.[266] The complex interplay between load shedding and disruptions in water supply has given rise to urgent concerns about the government's responsibility in upholding this essential human right.[267] This chapter delves into a comprehensive examination of the government's initiatives designed to alleviate the adverse effects of load shedding on the availability and access to sufficient and clean water in South Africa.

As the previous chapters of this study have revealed, the obscure connection between load shedding and water access surpasses mere infrastructure issues. It is a representation of the significance of socio-economic issues.[268] The subtle impact of load shedding seeps deep into the foundation of South African communities, affecting livelihoods, health, and overall well-being.[269] In a country where water scarcity is already a significant concern, the combined challenges of load shedding and water disruption is a substantial hurdle.[270]

These initiatives, however, may come with some relief despite having their own set of problems. Challenges like access to financial capital, flexibility of the physical environment, and synchronisation with outcomes across disciplines have to be addressed. This chapter therefore assesses the extent of effectiveness of these

---

266 Mbana and Sinthumule 2024 *WHS* p.1354477.
267 Mbana and Sinthumule 2024 *WHS* p.1354477.
268 Mbana and Sinthumule 2024 *WHS* p.1354477.
269 Mbana and Sinthumule 2024 *WHS* p.1354477.
270 Mbana and Sinthumule 2024 *WHS* p.1354477.

government-related approaches in the context of the political and socio-economic dispensation.

3.2 Analysis of the government's initiatives to mitigate disruptions

Access to clean and sufficient water is fundamental for upholding human life which acts as the basis for protecting public health and the welfare of people.[271] However, many developing countries such as South Africa have vulnerable communities that are affected more severely by failures in the provision of basic services such as water.[272] Temporary cuts in power is often necessary to prevent prevalent power cut.[273] However, the lengthy periods of load shedding threaten the fluent provision of services such as consistent access to sufficient water.[274] This violates the human right to access to sufficient water.[275]

Since water supplies are under increasing strain in many countries across the world as a result of population growth, climate change, and inadequate finance,[276] and now load shedding. The consequences of load shedding are experienced differently across regions. Vulnerable communities where essential services like water delivery heavily rely on electricity, experience worse outcomes.[277]

The government launched numerous programmes and initiatives after 1994, the year of independence, with the goal of advancing water management.[278] In order to enhance the quality and quantity of water supplies, particularly the vulnerable communities of the black population, the South African government developed and implemented a number of water policies and programmes.[279] Coning and Shrwill state that changes were made to the water policy to address the backlogs in the nation's water supply and to provide the institutions and processes required to

---

271 Cernev and Fenner 2022 *SDG* 115.
272 Baker and Phillips 2019 177.
273 Baker and Phillips 2019 177.
274 Baker and Phillips 2019 177.
275 Baker and Phillips 2019 177.
276 Adom and Simatele 2021 *OJWWC* 503–520.
277 Bwalya *et al* 2022 *DSA* 354–371.
278 Adom and Simatele 2021 *OJWWC* 503–520.
279 Adom and Simatele 2021 *OJWWC* 503–520.

handle the accumulations, such as the *WSA*.[280] The *Constitution* established access to a sufficient and sustainable supply of water and related services as a fundamental human right.[281]

Although towns and households did receive more water because of these policies and strategies, the government was unable to create a nation that was water-conscious and had the necessary knowledge and experience with water management.[282] These programmes and policies are also outdated, complicated, divided, and lack strong water governance with strong stakeholder partnerships that support the National Development Plan's (NDP) more explicit second phase on achieving water security in the face of climate change.[283]

Although the right to electricity is a necessity in our current era, access to electricity surpasses natural gas not only because it provides clean energy for cooking but also because it powers essential devices that facilitate access to sufficient and clean water.[284] Therefore, modern access to clean and sufficient water is directly affected by electricity.[285] Moreover, neither national legal frameworks nor international law expressly outline a right to electricity. International law sees the implicit right to electricity as an addition to the right to development, which includes having access to clean and efficient water.[286]

In the case of *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others,* the court held that the state respondents who are in violation of the applicant's constitutional and statutory rights have a constitutional and statutory obligation to provide uninterrupted electricity[287] since they are required to provide continuous electricity to schools, public health facilities and police stations.[288]

---

280 Adom and Simatele 2021 *OJWWC* 503–520.
281 Adom and Simatele 2021 *OJWWC* 503–520.
282 Adom and Simatele 2021 *OJWWC* 503–520.
283 Adom and Simatele 2021 *OJWWC* 503–520.
284 Dube and Moyo 2022 *PELJ*.
285 Dube and Moyo 2022 *PELJ*.
286 Dube and Moyo 2022 *PELJ*.
287 *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others* para55.
288 *United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others* para55.

Thus, in an effort to guarantee that there will be adequate electricity and to prevent the interruption of the supply to the public consequent to load shedding, the High Court directed that the Minister take all reasonable steps within 60 days of the making of the order whether in conjunction with other organs of state or independently.[289]

3.3 Government initiatives to mitigate disruptions of water supply due to load shedding

The government of South Africa implemented various initiatives aimed at mitigating load shedding, which has resulted in significant consequences for vulnerable communities. These initiatives seek to enhance the capacity for electricity generation, optimise the operation of current power plants, and foster the use of renewable energy resources. In light of this, the government released a revised Energy Action Plan at the beginning of January 2023, outlining the steps it will take to steer the nation clear of energy difficulties.[290] Among these steps is a plan to raise the generation capacity from 2023 to 2024 and beyond.[291]

3.3.1 Key initiatives to alleviate load shedding

3.3.1.1 Revival of renewable energy procurement

The government has taken significant steps to revitalise its renewable energy procurement programme.[292] This initiative aims to bolster the country's energy capacity by introducing sustainable energy solutions.[293] Specifically, the government has reinstated the renewable energy procurement programme, resulting in the

---

289 United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others 2023 Par 55.
290 United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others 2023 Par 55.
291 United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others 2023 Par 55.
292 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf
293 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf

construction of 2 205 MW from Bid Window 4.[294] There is a planned further procurement of 6 800 MW of solar photovoltaic (PV) and wind power through subsequent bid windows.[295] These efforts are expected to diversify the energy mix, reduce reliance on fossil fuels, and enhancing overall energy security.[296]

3.3.1.2 National Energy Crisis Committee

To address the ongoing energy crisis with both immediate and long-term strategies, the government established the National Energy Crisis Committee (hereafter NECOM).[297] This dedicated body is responsible for overseeing the implementation of various strategies aimed at resolving the energy crisis, coordinating efforts across different sectors to ensure a cohesive and comprehensive approach, monitoring progress and adjusting plans as necessary to achieve the desired outcomes.[298] NECOM's role is crucial in ensuring that all measures taken are effective and that the energy crisis is managed efficiently.[299]

In July 2022, President Cyril Ramaphosa outlined a plan of action in his speech to the nation to help alleviate load shedding and to achieve energy security.[300] The President has since then put in place five measures under the supervision of NECOM, namely to stabilise Eskom and obtain the availability of existing supply, to enable and expedite the generation investment from private entities, to advance the procurement of new supply from renewable sources, gas and storage, to open up

---

294 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf.

295 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf.

296 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf.

297 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

298 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

299 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

300 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

businesses and households for investment in rooftop solar, and finally, to revolutionise the energy supply sector for long-term security..[301]

These measures were not just put into place without a way forward. A long-term road map accompanied these crucial measures. The following actions are part of the government's agenda for intervening to end load shedding:

- Importing between 300 and 1 625 MW from nearby nations by 2023.
- Raising the capacity of rooftop solar power by over 850 MW by 2023.
- Enabling embedded generating projects in the private sector in a total of 1 597 MW by 2023. 1 500 MW will be purchased by the city in 2024, enabling the construction of 2 125 MW of new private embedded generating projects by 2024.
- Putting into practice 238 MW of Just Energy Transition projects and Phase 2 of the Battery Energy Storage System by 2024.
- Acquiring new a pumped storage capacity of 4 000 MW by 2024.
- Using market changes to promote over 9 000MW of significant private sector investment by 2024.[302]

South Africa is looking for ways to address its energy crisis, which offers American businesses a chance to compete for energy projects.[303] However, American businesses can encounter difficulties with local content prerequisites that frequently accompanies public procurement. Furthermore, local developers frequently favour

---

301 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

302 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

303 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

the use of technology and solar panels that are obtained from the community market.[304]

3.3.1.3 Increased private sector participation

Recognising the potential of the private sector to contribute to energy generation, the government has increased the licensing threshold for new generating projects to 100 MW, allowing private investors to construct generation facilities without a license in recognition of the private sector's potential to contribute to energy generation.[305] A substantial pipeline of more than 70 confirmed private sector projects, with a combined capacity to produce more than 5 000 MW, has been created as a result of this policy change. The administration hopes to lessen the strain on the national grid and expedite the acquisition of new energy capacity by permitting increased private sector participation.[306]

3.3.1.4 Municipal procurement of power

The government has recently permitted towns to purchase electricity on their own in an effort to improve local energy resilience. Many towns are now actively seeking new electricity sources as a result of this legislative shift. This will enhance local energy supply, lessening the effects of load shedding on companies and households. This programme guarantees a more decentralised and dependable power supply while enabling communities to more effectively address their unique energy needs.[307]

---

304 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

305 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf.

306 Confronting the energy crisis. An action plan to end load shedding 2022 available at https://www.investsa.gov.za/wp-content/uploads/2023/07/CONFRONTING-THE-ENERGY-CRISIS-ACTIONS-TO-END-LOAD-SHEDDING-AND-ACHIEVE-ENERGY-SECURITY-002.pdf.

307 South African Energy Action Plan and roadmap to end load shedding 2023 available athttps://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

3.3.1.5 Load shedding relief packs

The Western Cape government has given load shedding relief kits that contain solar charging equipment and emergency illumination in response to the pressing needs of populations who are vulnerable to power disruptions.[308] They sent these packets to homes and institutions that serve the vulnerable, like schools and shelters for victims of gender-based abuse. With the help of this programme, the most affected people would experience fewer negative consequences from load shedding, preserving their access to necessary services and enhancing their standard of living during blackouts.[309]

3.3.1.6 Protection of critical services

The government has set aside money to repair vital infrastructure so that vital services can continue even in the event of a power outage.[310] Keeping the sewage and water treatment systems running during blackouts is one of the most important precautions, as is putting in solar power systems and energy-saving measures in schools to keep the lights on during load shedding.[311] The goal of these initiatives is to safeguard infrastructure and essential services while lessening the overall negative effects of load shedding on public safety, health, and education.[312] Minister Ramakgopa said that while these interventions are helping in the reduction of load shedding to a great extent, it cannot be overemphasised that as much as power generation is necessary, South Africans must also do things that will reduce demand on the power grid.[313]

---

[308] WC Government is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding

[309] WC Government is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding

[310] South African Energy Action Plan and roadmap to end load shedding. https://www.trade.gov/market-intelligence/south-africa-energy-action-pla - load-shedding

[311] WC Government is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding

[312] WC Government is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding

[313] What the government has done to tackle load shedding in South Africa so far. https://businesstech.co.za/news/energy/709534/what-government-has-done-to-tackle-load-shedding-in-south-africa-so-far/

3.4 Challenges and gaps in implementation

3.4.1 Dependence on aging infrastructure

The majority of municipalities are using outdated systems.[314] This means that municipalities depend on infrastructure that is old and very sensitive to interruptions due to load shedding.[315] It has been established that the infrastructure in most municipalities calls for frequent maintenance work, which mostly receives minimal funding.[316] Thus, when power outages occur, they expose the system's vulnerability. Due to the lack of early maintenance, water delivery systems are constrained.[317] Technical losses and theft present problems on top of load shedding, in effect making it complex to provide a constant water supply.[318]

Among all the constraints within which municipalities operate, the broad fiscal framework presents a significant problem for municipalities because it supposes that municipalities are capable of generating adequate revenues from property taxes and service charges.[319] However, property taxes and service charges only contribute 50% of the local government's operating expenditure: funding gaps are more pronounced beyond the municipal sphere.[320] This failure to generate enough revenue forces municipalities to look at basic services such as providing access to sufficient water more as a revenue generating endeavour than a constitutional right or public health/development venture.[321]

This has resulted in poor service delivery and little reinvestment in infrastructure. There is widespread limiting of services, and even disconnecting water supply, erasing all of the initial achievements in extending the reach of the basic services to vulnerable communities. Various communities in South Africa are beginning to take independent initiatives to press for their rights since they are unbale to rely on their

---

314 Masiangoako, Khunou and Potter A 2022 *HOJ.*
315 Masiangoako, Khunou and Potter A 2022 *HOJ.*
316 Masiangoako, Khunou and Potter 2022 *HOJ.*
317 Masiangoako, Khunou and Potter 2022 *HOJ.*
318 Masiangoako, Khunou and Potter 2022 *HOJ.*
319 Masiangoako, Khunou and Potter 2022 *HOJ.*
320 Masiangoako, Khunou and Potter 2022 *HOJ.*
321 Masiangoako, Khunou and Potter 2022 *HOJ*.

local government. They are using organisational approaches and partnerships with other structures of government, with individual and community supply.

In the case of *Unemployed People's Movement v Makana Municipality and Others*[322], the Court was requested to find the Makana Municipality to be in violation of its constitutional obligation of making sure that services for the community are delivered efficiently, in a sustainable way, safe and health within the frame work of section 152 of the *Constitution,* as well as its duty to "structure and manage its administration, budgeting and planning processes in order to give priority to basic needs and promote the social and economic development of its community."[323]

3.4.2 Inequitable distribution of resources

Despite the fact that the number of households with access to the basic source of water supply in South Africa has increased since the end of apartheid in 1994, a smaller percentage of households has access to sufficient water.[324] Moreover, in the last 27 years, over R1.3 billion was invested in water resources and water services infrastructure. Tens of thousands of communities, mainly rural households in the most vulnerable communities, are still without proper basic water supply and safely managed water services.[325] As highlighted by Statistics South Africa the following statistics were recorded by 2016, only 44% of the 89.8% of the households with access to piped water actually received piped water to their households.[326] According the current statistics, a high percentage of the households are still without basic water.[327] Water supply is poor in provinces with more rural inhabitants; 31% have been reported in Eastern Cape province and 27.2% in Limpopo.[328]

---

322 Unemployed People's Movement v Makana Municipality and Others para 11.
323 Section 152 of the *Constitution of the Republic of South Africa*, 108 of 1996.
324 Masiangoako, Khunou and Potter 2022 *HOJ.*
325 Masiangoako, Khunou and Potter 2022 *HOJ.*
326 Lehohla P "The State of Basic Service Delivery in South Africa: In-Depth Analysis of the Community Survey 2016 Data".
327 Lehohla P "The State of Basic Service Delivery in South Africa: In-Depth Analysis of the Community Survey 2016 Data.
328 Lehohla P "The State of Basic Service Delivery in South Africa: In-Depth Analysis of the Community Survey 2016 Data.

Vulnerable communities, especially those in the rural areas, are still affected by unequal measures to ensure access to sufficient water during load shedding, the government's measures to increase energy supply and enhance energy facilities are frequently slow to reach these areas. They are forced to rely on unstable municipal services.[329] Unlike urban areas, vulnerable communities have limited access to alternatives such as developing back-up and emergency power sources for core water services.[330] Such an imbalance in resource availability widens current gaps in access to sufficient water during periods of load shedding.[331]

In *Concerned Residents of Flag Boshielo West and Others v Sekhukhune District Municipality and Others,* 5 villages with nearly five thousand households in Limpopo had been without access to water supply since the year 2009. The applicants stated that the municipality consciously and continually violated its legal requirements and duties toward the applicants and denied access to water and pending the construction of a long-term water purification plant and has not provided the applicants with constitutional provisions of clean and safe water on a daily basis.[332]

3.5 Conclusion

In South Africa, vulnerable communities are suffering greatly as a result of a lack of government efforts to reduce load shedding and improve access to sufficient water.[333] Even with the attempts to improve infrastructure and energy supplies, persistent power outages worsen the problems that already exist, especially for those who are already disadvantaged.[334] Water supply systems are affected by load shedding since many towns rely on energy to run treatment plants and pumps.[335] Water flow is disrupted by frequent power outages, which causes shortages in places that are already underserved. For example, the City of Tshwane has stated

---

329 Meissner R, Nhemachena C, Moyo N, Nhamo G and Moyo P 2018 *CSG.*
330 Meissner R, Nhemachena C, Moyo N, Nhamo G and Moyo P 2018 *CSG.*
331 Meissner R, Nhemachena C, Moyo N, Nhamo G and Moyo P 2018 *CSG.*
332 *Concerned Residents of Flag Boshielo West and Others v Sekhukhune District Municipality and Others* para 5.
333 Machimana *et al* 2024 *Water*.
334 Machimana *et al* 2024 *Water*.
335 Machimana *et al* 2024 *Water*.

that load shedding jeopardises the water reservoirs' ability to maintain levels because they are dependent on a steady power supply.[336]

To guarantee a steady supply of water during load shedding, local governments must invest in renewable energy sources like solar and wind. While putting money into alternative energy sources can be a long-term solution, local governments must work with citizens, power utilities (Eskom), businesses in the immediate region, and other important stakeholders to implement measures that are sensitive to the current situation. These initiatives will require coordinated efforts that integrate energy and water management strategies, ensuring that vulnerable communities receive the support they need to thrive.

[336] Machimana *et al* 2024 *Water*.

Chapter 4: Analysis of the effect of load shedding on the right to access to sufficient water on vulnerable communities

4.1 Introduction

Access to sufficient water is one of the essential services to sustain livelihoods and to promote human well-being.[337] However, many vulnerable communities in South Africa experience both disrupted and inadequate access to this service.[338] These services are exacerbated by the energy crisis in South Africa, which led to frequent load shedding.[339] Currently, South Africa is described as a water scarce country and the South African government is of the opinion that effective and efficient management of resources – especially water – is crucial for the sustenance of lives and livelihoods as the country does not have water..[340] It is therefore necessary to look at how prolonged load shedding affects water supply services.[341] Load-shedding schedules can occasionally run up to 12 hours[342] with different communities and sectors experiencing load-shedding effects differently.[343] Vulnerable communities often have no back up power and electricity is vital for providing basic services like water delivery.[344]

This not only disrupts access to the essential service such as water, but also exacerbates existing water inequalities, which directly affect education, healthcare, and environmental sustainability.[345] This chapter focuses on the impact of load shedding on the access to sufficient water as a human right that enables these vulnerable communities to access other rights.[346] As we delve into the analysis of the impact of load shedding on the right to access to sufficient water in vulnerable communities, it is important to explore not only the barriers these communities face

---

337 Machimana *et al* 2024 *Water*.
338 Machimana *et al* 2024 *Water*.
339 Machimana *et al* 2024 *Water*.
340 Machimana *et al* 2024 *Water*.
341 Machimana *et al* 2024 *Water*.
342 Baker and Phillips 2019 The politics of electricity distribution in South Africa.
343 Bwalya *et al* 2022 *DSA* 354–371.
344 Bwalya *et al* 2022 *DSA* 354–371.
345 Bwalya *et al* 2022 *DSA* 354–371.
346 Bwalya *et al* 2022 *DSA* 354–371.

during load shedding, but also other rights that are affected by the lack of access to sufficient water due to load shedding.

4.2 The impact of load shedding on access to sufficient water in vulnerable communities and on other rights in the Bill of Rights

Section 29 (1)(b) of South Africa's *Constitution* states that "*Everyone has the right to have access to sufficient water,*" which enshrines the right to access to sufficient water for all citizens in all communities, whether it is a poorer community or a well-developed community.[347] This section mandates the state *to take "reasonable, legislative and other measures within its available resources to achieve the progressive realisation of this right"*.[348] Although the *Constitution* guarantees equal access to sufficient water for all citizens, the reality on the ground presents a blunt contrast.[349] This situation is dire in several vulnerable communities where access to sufficient water is a daily challenge.

The lack of access to sufficient water constitutes a violation of the constitutionally protected right to access sufficient water.[350] The right to access to sufficient water as a fundamental right highlights the impact on other essential human rights such as the rights to education, healthcare and environmental sustainability.[351] These are directly linked to the impact load shedding has on the right to access to sufficient water on vulnerable communities.

4.2.1 The right to education: Educational disruptions when load shedding limits access to sufficient water

Load shedding affects the right to education as education is influenced by access to sufficient water in South Africa.[352] This relationship highlights how an infringement of one right leads to an infringement of the other basic rights. In terms of section

---

347 The *Constitution of the Republic of South Africa*, 108 of 1996.
348 Section 26(2) of the *Constitution of the Republic of South Africa*, 108 of 1996.
349 *HRWS* https://www.unwater.org/water-facts/human-rights-water-and-sanitation
350 The *Constitution of the Republic of South Africa*, 108 of 1996.
351 The *Constitution of the Republic of South Africa*, 108 of 1996.
352 Mokgadi, Mfundo and Mashimane 2024 *EATP.*

29(1)(a), "*Everyone has the right to a basic education, including adult basic education."*[353] However, in a modern society where the provision of electricity is essential for ensuring the realisation of the right to education and social progress, load shedding stands as a barrier to achieving this right.[354]

All citizens should have access to electricity as this aligns with the SDGs, which function as tools for converting the world's traditional societies into modern ones.[355] Load shedding has negatively affected the education sector and has become a barrier to providing citizens in vulnerable communities with the right to education, as teaching and learning activities depend on the availability of electricity and water supply.[356]

Learners in vulnerable communities' right to education is violated due to the effect load shedding has on the delivery of water. Water is a primary service that enables education.[357] Children often have to spend their time doing household chores such as fetching firewood to make fire to cook food, fetching water at nearby rivers and dams that are contaminated, or cleaning the home.[358] This often takes time, which means that little to no time is spent on education, meant to enhance their knowledge.[359] In this regard, load shedding is identified as one of the challenges schools in vulnerable communities experience.[360] This demonstrates how the effect of load shedding on access to sufficient water exacerbates disparities in schools.[361]

According to the South African Human Rights Commission, the government of South Africa is obliged to provide electrical infrastructure to all schools and any failure to do so is considered as a threat to the performance and functions of South African rights approach to redress unequal distribution of services as provided for under the

---

353 Section 29 (1) (a) of the *Constitution of the Republic of South Africa*, 108 of 1996.
354 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
355 Mokgadi, Mfundo and Mashimane 2024 EATP.
356 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
357 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
358 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
359 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
360 Mokgadi, Mfundo and Mashimane 2024 *EATP.*
361 Mokgadi, Mfundo and Mashimane 2024 *EATP.*

South African *Constitution*.[362] It is important to note that electricity and access to sufficient water play a major role in the provision of education in this modern era.[363]

A school called Solvista Secondary School situated in Durban was confronted with water supply problems on the first day of school due to load shedding.[364] The school issued a letter informing parents and guardians that learners would be sent home before the end of school hours as the school was facing a water problem.[365] This was inconvenient for the learners, parents and teachers. It meant that the school curriculum was delayed, and parents had to leave their places of work on short notice.[366] It is important to note that electricity and access to sufficient water play a major role in the provision of education in this modern era.

"It's becoming untenable because children are losing valuable school time and parents are being inconvenienced by the last-minute notices. Even if learners were to carry additional drinking water themselves, what about sanitation, when they need the toilet? There is also the safety of learners to consider and that's another consequence of these challenges" said Voice of Phoenix NPO executive member Vassie Govender.

4.2.2 The right to health

Water is essential for public health.[367] Although the impact of load shedding on the economy and society has been extensively studied, concerns over how it affects South Africans' health are beginning to surface.[368] When water supply is affected by load shedding, many vulnerable communities find it challenging to maintain basic personal hygiene routines.[369] This can exacerbate health problems and make it more

---

362 South African Human Rights Commission.
363 South African Human Rights Commission.
364 Hlangu 2024 https://www.timeslive.co.za/news/south-africa/2024-04-03-water-woes-blot-out-back-to-school-blues-in-phoenix/
365 Hlangu 2024 https://www.timeslive.co.za/news/south-africa/2024-04-03-water-woes-blot-out-back-to-school-blues-in-phoenix/
366 Hlangu 2024 https://www.timeslive.co.za/news/south-africa/2024-04-03-water-woes-blot-out-back-to-school-blues-in-phoenix/
367 Mthanti 2023 *EHASS* 164.
368 Marchetti-Mercer *et al* 2024 *SAJP* 2.
369 Mthanti 2023 *EHASS* 164.

difficult for them to participate completely and reap the benefits of living.[370] Given that vulnerable communities are unable to invest in infrastructure or the resources needed to mitigate water disruptions during load shedding, health services become compromised.[371]

Citizens in vulnerable communities who receiving public healthcare services at facilities such as clinics and hospitals with no access to water due to load shedding, tend to contract more illness at these facilities.[372] Some of the areas that are experiencing a high incidence of waterborne diseases like cholera, include Musina and Blouberg in Limpopo province.[373] Such outbreaks are compounded by the interruption of water supply caused by load shedding and this calls for urgent intervention with regard to water and sanitation systems.[374] These conditions especially affect children and women, emphasising why constant provision of clean water is important in these communities.[375]

The National Health Act imposed a duty on the State to provide comprehensive healthcare services.[376] Section 5 mandates that emergency medical treatment should not be denied,[377] yet load shedding challenges healthcare facilities' ability to fulfil this responsibility. Without access to sufficient water, especially for vulnerable communities who receive public healthcare services, healthcare services cannot deliver.[378]

---

370 Mthanti 2023 *EHASS* 164.
371 Mthanti 2023 *EHASS* 164
372 Mthanti 2023 *EHASS* 164.
373 WHO 2024 https://www.afro.who.int/countries/south-africa/news/who-south-africas-swift-response-imported-cholera-cases-limpopo-province#:~:text=WHO's%20swift%20involvement%20and%20participation,health%20emergencies%20in%20the%20country.
374 WHO 2024 https://www.afro.who.int/countries/south-africa/news/who-south-africas-swift-response-imported-cholera-cases-limpopo-province#:~:text=WHO's%20swift%20involvement%20and%20participation,health%20emergencies%20in%20the%20country.
375 WHO 2024 https://www.afro.who.int/countries/south-africa/news/who-south-africas-swift-response-imported-cholera-cases-limpopo-province#:~:text=WHO's%20swift%20involvement%20and%20participation,health%20emergencies%20in%20the%20country.
376 National Health Act 61 of 2003
377 Section 5 of the *National Health Act* 61 of 2003.
378 Machimana *et al* 2024 *Water*.

While section 27(1)(a) of the *Constitution* stipulates that *"everyone has the right to access healthcare services, including reproductive healthcare"*.[379] Load shedding affects public healthcare facilities by compromising the functionality of essential medical equipment and cold storage for vaccines, leading to a decrease in access to quality healthcare.

Load shedding affects hospitals and clinics most since power interruptions can lead to the failure of life-saving medical equipment such as water purification systems, sterilisation and photographic disinfection systems.[380] Power outages can be fatal for patients who depend on life-sustaining medical devices like disinfection systems and dialysis machines that require a constant flow of water to create a dialysis fluid[381] when load shedding keeps equipment from carrying out its function.[382] Moreover, vulnerable communities who depend on public hospitals and clinics may be put in danger if vital machines fail as a result of the impact of load shedding on sufficient water. More people living in vulnerable communities tend to suffer from the impact of load shedding on access to sufficient water as they often cannot access medical facilities or be assisted without sufficient water during load shedding.[383]

In *Mazibuko and Others v City of Johannesburg and Others* the court held that the obligation section 27 places on the government is an obligation to take reasonable legislative and other measures to seek the progressive realisation of the right.[384]

4.2.3 The right to a healthy environment

Many households in vulnerable communities rely on pollutants like fossil fuels for energy. They are often compelled to use other energy sources like wood during load shedding periods.[385] However, this apparent cost-cutting comes with unspoken,

---

379 Section 27(1) (a) of the *Constitution of the Republic of South Afric*a, 108 of 1996.
380 Machimana *et al* 2024 *Water*.
381 Machimana *et al* 2024 *Water*.
382 Gehringer, Rode, and Schomaker 2018 *epidemiology*.
383 The impact of load shedding on health in South Africa https://loadshedding.com/the-impact-of-load-shedding-on-health-in-south-africa/
384 *Mazibuko and Others v City of Johannesburg and Others* para 40.
385 Adebayo, Ikevuje Kwakye and Esiri 2024. *GSC Advanced Research and Reviews* 298-315.

long-term costs to society, with women frequently suffering a disproportionate share of the financial burden.[386] As a result of having to spend more time preparing or gathering these fuels, people may experience time-based poverty.[387] When these fuels are used, homes and people's surroundings are negatively affected by aesthetic problems, such as when vegetation is removed to harvest wood for energy.[388] Using polluting fuels has several negative effects on the environment, including accelerating climate change.[389]

The right to a healthy environment is linked to the right to access to sufficient water and basic sanitation services.[390] Section 24 of the *Constitution* provides that "*Everyone has the right (a) to an environment that is not harmful to their health or wellbeing; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that— (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development*."[391]

There is a link between environmental degradation and a higher risk of respiratory infections, including lung cancer, chronic obstructive pulmonary disease, and acute respiratory infections.[392] Although adults can sometimes withstand the polluted air and contaminated water, it is not the case with children as children are more vulnerable to the negative effects of air pollution due to their developing immune systems and respiratory systems.[393]

Children who grow up in homes that use wood and coal for cooking, the majority from vulnerable communities, are more likely to suffer from lung cancer, asthma,

---

386 Energy Research & Social Sciences 2024 109.
387 Energy Research & Social Sciences 2024 109.
388 Energy Research & Social Sciences 2024 109.
389 Energy Research & Social Sciences 2024 109.
390 *Kgetlengrivier Concerned Citizens & Another v Kgetlengrivier Local Municipality & Others* para 6.
391 Section 24 of the Constitution of the Republic of South Africa, 108 of 1996.
392 Energy Research & Social Sciences 2024 109.
393 Phogole 2021 "Adoption of cleaner energy sources" (Master of Science (MSc) University of Johannesburg 2021).

and other respiratory diseases, as well as chronic illnesses in general.[394] Candles, kerosene lamps, and paraffin cookers have also been linked to an increased risk of fire. Children who grow up in households with very little or no access to electricity face scholastic challenges because they do not have the light and power sources they need to learn. Some have to skip class if they must go out.[395]

In the case of *Kgetlengrivier Concerned Citizens & Another v Kgetlengrivier Local Municipality & Others*, the residents of Koster and Swartruggens filed an urgent application against the municipality due to its failure to provide adequate water and to prevent river pollution from raw sewage.[396] The North West High Court found that untreated sewage from the Koster and Swartruggens sewage works was contaminating the Koster and Elands rivers.[397] The court also held that the municipality had breached its constitutional duty to prevent environmental contamination by allowing raw sewage to spill, ultimately failing to ensure a sustainable water supply for Koster and Swartruggens residents.[398]

4.3 Conclusion

It is indeed a fact that load shedding has a great impact on the accessibility of services. It brings life to a standstill for some, and it puts even more pressure on others. As load shedding affects the accessibility of water as a source that is foundational to many aspects in human life, it also violates the rights of the people. Although load shedding affects different communities differently, vulnerable communities suffer the brunt of it. On days where they are without power for 12 hours, with no alternative source to generate energy, they have to make time for collecting water in rivers or lakes that may be unsafe to drink. They may need to

---

394 Phogole 2021 "Adoption of cleaner energy sources" (Master of Science (MSc) University of Johannesburg 2021).

395 Phogole 2021 "Adoption of cleaner energy sources" (Master of Science (MSc) University of Johannesburg 2021).

396 *Kgetlengrivier Concerned Citizens & Another v Kgetlengrivier Local Municipality & Others* para 2.

397 *Kgetlengrivier Concerned Citizens & Another v Kgetlengrivier Local Municipality & Others* Para 4.

398 *Kgetlengrivier Concerned Citizens & Another v Kgetlengrivier Local Municipality* & Others Para 11.

put school on hold as there is no water at school. They may even have to find means to keep food from spoilage. These communities such as the bode and Makhushane, which are villages that are situated in Limpopo with little to no alternative have to resort to daily meals which also cost them money that is limited to their standard of living.

Chapter 5: Conclusion and recommendations

5.1 Conclusion

In South Africa, load shedding has become a barrier to reliable water supply.[399] The pumping, purification, and distribution of water are all dependent on electricity, therefore power interruptions interfere with these vital functions.[400] In the case of power outages due to load shedding, municipalities often report to communities who are affected on the effect of water pressure due to these outages.[401] Due to the disproportionate impact of these disruptions on vulnerable communities, the current situation in South Africa exacerbates already existing inequities.[402]

Furthermore, during load shedding, water quality is compromised, particularly in vulnerable communities where there are little to no alternatives to acquire sufficient and clean water.[403] Additionally, sewage systems that rely heavily on electricity have the potential to overflow, contaminating nearby water supplies and posing a threat to public health.[404] A significant challenge to providing clean drinking water is the stress that power surges and varying pressures place on water infrastructure. These events raise the possibility of mechanical failures.[405]

---

399 South African Local Government Association 2022 https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf

400 South African Local Government Association 2022 https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf

401 South African Local Government Association 2022 https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf

402 South African Local Government Association 2022 https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf

403 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety-in-southafrica/?srsltid=AfmBOoptqepZOolkmrZSwFuO3Hw_53OqOryi9aAa_xR12iUMdx5ZHiQw

404 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety-in-southafrica/?srsltid=AfmBOoptqepZOolkmrZSwFuO3Hw_53OqOryi9aAa_xR12iUMdx5ZHiQw

405 Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety-in-southafrica/?srsltid=AfmBOoptqepZOolkmrZSwFuO3Hw_53OqOryi9aAa_xR12iUMdx5ZHiQw

The preceding chapters highlight the severe effect of load shedding on the fundamental right to access sufficient water in South Africa.[406] Important results show that load shedding seriously impairs the water supply infrastructure that provides water, particularly in high-lying and rural areas where water must be pumped across distances.[407] These disruptions violate the constitutional rights to access sufficient water, which the mandates the state to provide access to sufficient water.[408] The right to sufficient water is further eroded by the inability of municipal and provincial governments to adequately mitigate the adverse effects of load shedding on water services, leading to growing inequalities. The findings highlighted by the results achieved, the impact of load shedding in relation to water availability, domestic chores, business productive processes and economic activity bearing in mind that a number of urban households source their water supply from the municipalities' central depots.[409]

Since both the right to electricity and sufficient water depend on and flow from other rights, it has been difficult to ascertain that these rights are directly infringed.[410] According to the *Constitution*, the right to access electricity stems from Eskom, which is South Africa's sole power utility. It has the constitutional and statutory duty to maintain a steady supply of electricity and to guarantee fair administrative action when actions are taken that cause the deprivation of electricity.[411] The right to sufficient water is enshrined in the *Constitution.* While in some of the international instruments such as the Convention on the Rights of the Child and Convention on the Elimination of All Forms of Discrimination Against Women, it is a direct internationally recognised human right, in other international instruments the right to have access to sufficient water is inferred from other rights.[412]

---

406 Section 27(1) (b) of the *Constitution of the Republic of Southa Africa*, 1996.
407 Bazzaanah and Mothapo 2024 *EDS* 26 (6).
408 The Constitution of the Republic of South Africa, 108 of 1996.
409 Dube and Moyo 2022 *PELJ* 25
410 Dube and Moyo 2022 *PELJ* 25
411 Dube and Moyo 2022 *PELJ* 25
412 Article 14 of the *Convention on the Elimination of All Forms of Discrimination against Women,* 1979.

It is therefore significant that both these rights are seen for the significance they hold in society and for the other rights that depend on them. Moreover, the study underscores that load shedding has long-term socioeconomic consequences. Vulnerable communities suffer the brunt of load shedding due to a lack of financial resources and alternative solutions for securing water. Women and children in these vulnerable communities bear the brunt of no access to sufficient water by traveling long distances to collect water and facing increased risks of waterborne diseases. In summary, load shedding poses a severe threat to the fundamental right to access sufficient water.[413] The persistence of load shedding undermines efforts to provide consistent and sufficient water access, disproportionately affecting vulnerable communities and raising concerns about government accountability and service delivery.

5.2 Recommendations

To address the continuing impact of load shedding on the right to access to sufficient water, the following recommendations are proposed:

5.2.1 Investment in alternative energy sources

In ensuring that there is reasonable access to sufficient water within the borders of the country, more especially for the communities such as the Maganya village in Limpopo, it is vital for the municipalities to explore renewable energy sources such as wind or solar that can operate critical water infrastructure off the grid.[414] This will ensure that there is continuous operation during load shedding and improve their ability to counter future power outages caused by load shedding.[415] Districts such as the Vhembe, Collins Chabane and Makhado and their local municipalities should receive assistance from the government to ensure that the right to sufficient water is upheld by means of grants and subsidies.[416]

---

413 Section 27 (1) (b) of *the Constitution of the Republic of South Africa*, 108 of 1996.
414 Nene S and Nagy H 2021 *ISC.*
415 Nene S and Nagy H 2021 *ISC*.
416 Nene S and Nagy H 2021 *ISC*.

Chapter 4 of the National Energy Act aims at the development of other sources of energy, including renewable sources.[417] The City of Cape Town is working towards the National Energy Act with its investment in solar power to supplement the WSS. They use other forms of energy in an attempt to minimise drawing power from the national grid, which is especially acute during peak load shedding hours. This can be done by other local municipalities to ensure the full realisation on the right to access sufficient water during load shedding.

5.2.2 Upgrading old infrastructure

The Infrastructure Development Act enables the acquisition and improvement of infrastructure as required by the members of the community, including water systems.[418] In addition, section 13 (h) (vii) of the National Water Act states that "*Every draft water services development plan must contain details- regarding the future provision of water services and water for industrial use and the future disposal of industrial effluent including the operation, maintenance, repair and replacement of existing and future infrastructure*".[419]

Upgrading existing infrastructure can enhance the service continuity of the existing water supply system in the case of load shedding. This can be done with the installation of backup generators to supply electricity and making changes in the mechanical reliability of existing supply systems.[420] Such improvements can ensure that even when the primary power is interrupted, other critical functions go on. The backup generators serve as a power supply that is capable of running water pumps, treatment facilities and distribution systems and ensure that water interruptions do not occur.[421]

Nevertheless, it should be understood that in addition to such systems being implemented, the best possible means should be used to maintain them. Each of

---

417 Chapter 4 of the *National Energy Act* 34 of 2008.
418 *Infrastructure Development Act* 23 of 2014.
419 Section 13 (h) (vii) of the *National Water Act* 108 of 1997.
420 Naidoo C 2023 *JOPA.*
421 Naidoo C 2023 *JOPA.*

the backup generators should be properly maintained to provide constant reliability while mechanical parts of the water supply systems should also be properly maintained to make sure they are in good working condition at any given time.[422] If this is not done, systems become prone to failures and thus the virtues of the enhancements made on the systems are not served.[423] There is also a need to develop effective schedules for routine servicing, regular inspection and proper maintenance procedures to prevent potential problems that may cause system failures. Taking such measures in advance will guarantee that the consequences of load shedding will be mitigated with the existing infrastructure and provide the citizens with stable water service.

5.2.3 Public awareness campaigns

The local municipalities in vulnerable communities as well as policy makers should ensure that members of the community become knowledgeable on how they can manage their water usage, especially during load shedding. It is very important to reduce the load on water supply chains that are already under immense pressure.[424] Through regular campaigns, literature or even media announcements on local radio stations or at community meetings that emphasise the importance of only using water when necessary, especially during low power supply, municipalities can make sure that water is always available, even when demand is almost beyond the existing capacity.[425] Education campaigns can impart people with knowledge on functions as basic as fixing leakages or using efficient water throughput washing machines and urinals, and reducing unnecessary use of water which, overall, assists in alleviating pressure on the system.

Reducing water use at certain hours of the day helps maintain reservoir levels, especially during power cuts as treatment and pumping stations are affected.[426] Governments and other stakeholders can ensure that water is provided to all

422 Naidoo C 2023 *JOPA.*
423 Naidoo C 2023 *JOPA.*
424 Machimana *et al* 2024 *Water*.
425 Machimana *et al* 2024 *Water*.
426 Potgieter CC 2018.

communities and rationed in such a manner that everyone has access to it.[427] Such campaigns help provide communities with knowledge on how to act responsibly during power disruptions. At the same time, it fosters responsibility among people as far as the sustainable use of water resources is concerned.[428]

5.2.4 Development of policies

Districts such as Vhembe, Makhado and Collins Cabane should draft comprehensive guidelines and policies to assist municipalities to cope with the impact of load shedding on water supply systems.[429] The Department of Water and Sanitation's National Water and Sanitation Master Plan is an existing programme that includes policies targeting the resilience of water supply. This programme supports the National Water and Water Service Act in enhancing access to clean and sufficient water.[430] However, the impact of load shedding is not addressed in these policies.

Such frameworks should outline how water resources should be governed in contexts of limited power. It should give guidance on institutional coordination with the local utilities to enhance the crucial infrastructures in cases of load shedding. Local governments can conserve water by drafting guidelines for municipalities in vulnerable communities during load shedding to avoid the hasty use of water and situations where one area has access to this commodity while the other does not.

Policy makers should focus on increasing investment in clean sources of energy and improving local institutional capacity to adapt to future electricity outages and water situations.[431] Effective incorporation of technological advancement, encouraging communities to participate, and having coherent policies and plans, can mean equal and sustainable access to water for each dwelling.[432] Where there is a risk of long-term outages, there should be contingency plans to address such possibilities. These plans should provide measures that can be taken to address short-term water

---

427 Potgieter CC 2018.
428 Potgieter CC 2018.
429 Machimana *et al* 2024 *Water*.
430 The National Water Act and Water Service Act.
431 See Chapter 2.2.
432 See Chapter 2.5.2.

conservation issues, the provision of backup power sources for critical water supply facilities, and measures that can be put in place to ensure water pressure and distribution during long power outages.

Local governments should also take the initiative in strengthening the investment in infrastructure by retrofitting and enhancing the necessary facilities like water pumping stations, treatment plants, and reservoirs. Moreover, there is a need for a "*necessarily smart*" water management plan with the application of smart technologies for water management that can detect and prevent water leakage and control the supply and demand during and after outages. Together, these strategies will greatly improve the durability of the water supply systems, reduce disruptions and improve the management of the water resources during frequent loas shedding for communities.

Local governments should establish guidelines and frameworks to support municipalities in managing the impact of load shedding on water supply. This includes creating emergency response plans for prolonged outages and investing in infrastructure resilience.

5.2.5 Collaboration with stakeholders

A key strategy for identifying solutions to challenges related to load shedding is the involvement of all community players, which includes organisations, private companies, and the community residents. Partnership with relevant organisations can enable the municipalities to have a clear understanding of community needs and ensure that water conservation campaigns are directed at the right groups. Such organisation have a good rapport with the communities they serve and become mediators by educating the communities on the over-use of water, reporting on the state of infrastructure, empowering the communities in case of water rationing, among other things.

Industry stakeholders must offer technical contributions, financial support, and even new technologies to improve water supply systems. For instance, the Public Private Partnership (PPPs) help to set up renewable energy systems such as solar pumps

for water supply. They can help with the design of efficient water control systems, like smart water meters that can regulate water use and detect leaks. Other programmes that private companies can fund can help with capacity building for municipal staff with respect to the use of various tools for water management and proper maintenance of structures such as water supplies during load shedding. Industries that are located in a given region may assist each other by following planned reductions in water use during load shedding times in order to ease the burden on the public water supply.

Such cooperation can help solve the problem of the management of water supply systems more effectively in municipalities during the ongoing energy issues. In terms of resources, knowledge and innovation sharing, municipalities are well protected in exercising the right to deliver sufficient and safe water to all people, especially vulnerable ones even during the continuous load shedding. The use of a multi-stakeholder approach can ensure a more sustainable water management mechanism that is capable of coping with future energy shocks and ensure the achievement of long-term water security for human society.

REFERENCE LIST

Literature

Adom and Simatele 2021 *OJWWC*

Adom RK and Simatele MD "Analysis of public policies and programmes towards water security in post-apartheid South Africa" 2021 *OJWWC* 503–520.

Adebayo, Ikevuje, Kwakye, and Esiri 2024 *Advanced Research and Reviews.*

Adebayo YA, Ikevuje AH Kwakye JM and Esiri AE "A model for assessing the economic impact of renewable energy adoption in traditional oil and gas companies" 2024 GSC *Advanced Research and Reviews* 20(3) 298-315.

Bauman 2021. Critical legal studies: A guide to the literature. Routledge.

Bauman RW. "Critical legal studies: A guide to the literature. Routledge"

Baker and Phillips 2019 *EPPS*

Baker L and Phillips J "Tensions in the transition: The politics of electricity distribution in South Africa" 2022 *EPPS* 177–19

Bwalya *et al* 2022 *DSA*

Bwalya UB, Chisola MN, Mushili BM, Kunda-Wamuwi CF, Kafwamba D, Membele G and Imasiku EN "Effects and implications on household and local economies" 2022 *DSA* 354–371.

Cernev and Fenner 2022 *Futures*

Cernev T and Fenner R "The importance of achieving foundational Sustainable Development Goals in reducing global risk" 2022 *Futures* 102492.

Chamberlain and Khonou 2021 *AHRJL*

Chamberlain L and Khonou K "Realising the right of access to water for people living on farms: The impact of the KwaZulu-Natal High Court decision in Mshengu v uMsunduzi Local Municipality" 2021 *AHRJL*, 573–609.

Chenwi L 2013 *DEJURE*

Chenwi, L "Unpacking "progressive realisation", its relation to resources, minimum core and reasonableness, and some methodological considerations for assessing compliance" 2013 D*EJURE* 39.

de Jong 2021

de Jong 2021 "Powering Justice: Redefining a Just Energy Transition through a South African Lens" (Doctoral dissertation Wageningen University 2021)

Dube 2020 *MJER*

Dube B "Rural online learning in the context of COVID-19 in South Africa: Evoking an inclusive education approach" *MJER* 135–157

Dube and Moyo 2022 *PELJ*

Dube F and Moyo CG "The right to electricity in South Africa" 2022 *Potchefstroom Electronic Law Journal* 1727–3781

Elsevier B 2021

Elsevier "Challenges facing sustainable water supply, sanitation and hygiene" 893–907.

Elum, Modise and Marr 2017 *CRM*

Elum ZA, Modise DM and Marr A "Farmer's perception of climate change and responsive strategies in three selected provinces of South Africa." *Climate Risk Management*, 246–257.

Frankenreiter and Livermore 2020

Frankenreiter and Livermore "Computational methods in legal analysis" *Annual Review of Law and Social Science*, 16(1), 39-57

Gehringer, Rode, and Schomaker 2018 *epidemiology*

Gehringer C Rode H and Schomaker, M "The effect of electrical load shedding on pediatric hospital admissions in South Africa" *Epidemiology* 29(6) 841-847

Harry and Malepane 2021 *SAJIP*

Harry and Malepane "Gender and emotional intelligence as predictors of career adaptability in the Department of Water and Sanitation in South Africa" SA Journal of Industrial Psychology, 47(1) 1-7.

Hara *et al* 2021 *Microbiology Spectrum*

Hara T, Takatsuka Y, Nakata, E and Morii T "Augmentation of an engineered bacterial strain potentially improves the cleanup of PCB water pollution" *Microbiology Spectrum*, e01926-21.

Hausmann and Sturzenegger 2023 *CID*

Hausmann R and Sturzenegger F "Growth Through Inclusion in South Africa" (No. 434). (2023) *CID* at Harvard University available at https://growthlab.hks.harvard.edu/sites/projects.iq.harvard.edu/files/growthlab/files/2023-11-cid-wp-434-south-africa-growth-through-inclusion.pdf

Hlongwane and Daw 2022 *IJEEP*

Hlongwane NW and Daw OD "Electricity consumption and population growth in South Africa: A panel approach" *International Journal of Energy Economics and Policy* 374–383

Hove *et tal* 2019 *National Center for Biotechnology Information*

Hove, D'Ambruoso, Mabetha, Van Der Merwe, Byass, Kahn, Khosa, Witter and Twine 2019 "Water is life developing community participation for clean

water in rural South Africa" *National Center for Biotechnology Information* 1-5.

Inglesi-Lotz 2023 *SAJS*

Inglesi-Lotz R "Load shedding in South Africa: Another nail in income inequality?" 2023 *South African Journal of Science*, 1–4.

Jahns 2023 *EHASS*

Jahns S "How has the current electricity crisis in South Africa affected the development of renewable energy within the independent power producer procurement programmes?" 2023 E-*Journal of Humanities, Arts and Social Sciences,* 509–517

Kiss et al 2022 *EPG*

Kiss B, Sekulova F, Horschelmann K, Carl F, Wakana T and Wamsler C "Citizen participation in the governance of nature-based solutions" 2022 *Environmental Policy and Governance* 247–272

Kubanza 2020 *SAGJ*

Kubanza NS "The role of community participation in solid waste management in sub-Saharan Africa: a study of Orlando East, Johannesburg, South Africa" 2022 *South African Geographic Journal* 223–236

Laher, Van Aardt and Malinga 2019 *SAMJ*

Laher AE, Van Aardt BJ and Malinga DM "Getting out of the dark: implications of load shedding on healthcare in South Africa and strategies to enhance preparedness" 2019 *South African Medical Journal*, 899–901.

Langerman *et al* 2023 *Clean Air Journal*

Langerman K, Garland R, Feig G, Mpanza M and Wernecke, B "South Africa's electricity disaster is an air quality disaster, too". *Clean Air Journal*, 1–2. https://dx.doi.org/10.17159/caj/2023/33/1.15799

Lebek, Twomey and Krueger 2021 *WA*

Lebek S, Twomey K and Krueger M, "Municipal failure, unequal access and conflicts over water–a hydro-social perspective on water insecurity of rural households in KwaZulu Natal, South Africa" 2021 *Water Alternatives* 271–292.

Thabang 2022 *South African local government: exploring factors decelerating public service delivery*

Thabang TJ *South African local government: exploring factors decelerating public service delivery* (Doctoral dissertation, University of Johannesburg 2O22).

Lenoke *The impact of load shedding on the economic growth of South Africa*

Lenoke M "*The impact of load shedding on the economic growth of South Africa"* (Doctoral dissertation North-West University 2017)

Liebenberg and Bradley 2023 *Federal Law Review*.

Liebenberg S and Bradley S "Applying a human rights lens to poverty and economic inequality" The Experience of the South African Human Rights Commission. *Federal Law Review*, p.0067205X231188637.

Masiangoako, Khunou and Potter 2022Masiangoako T**,** Khunou K and Potter A "Fighting for water in South Africa: public participation, water rights claiming and strengthening governance" H2Open Journal, 5(1) 98-114.

Mabugu and Inglesi-Lotz 2022. Economics, Planning and Policy

Mabugu and Inglesi-Lotz 2022 "The effect of mismatched supply and demand of electricity on economic growth in South Africa" Energy Sources, Part B Economics, Planning, and Policy, 17(1), 2038731Machimana *et al* 2024 *Water*

Machimana, Gumbo, Moyo, and Mugari 2024

Machimana, Gumbo, Moyo, and Mugari "The impact of load-shedding on scheduled water delivery services for Mohlaba-Cross Village, Greater Tzaneen, South Africa." 2024 *Water* 2033.

Majola and Mudau 2022 *IJEM*

Majola MX and Mudau PK "Lecturers' experiences of administering online examinations at a South African open distance e-learning university during the COVID-19 pandemic" 2022 *International Journal of Educational Methodology* 275–283.

Makhoba and Reddy 2022 *AJOL*

Makhoba NF and Reddy MM 2022 "COVID-19 and its impact on higher education institutions: The use of online mediums to ensure the continuation of teaching and learning. Gender and Behaviour" 2022 *African Journal Online* 20187–20201.

Malemane 2020 "The Role of NGOs in Participatory Local Governance for Improved Service Delivery in Khayelitsha"

Malemane K 2020. The Role of NGOs in Participatory Local Governance for Improved Service Delivery in Khayelitsha. (University of Johannesburg South Africa).

Maphela and Cloete 2020 *DSA*

Maphela B and Cloete F "Johannesburg implementation of the National Water Act, 1998 in Soweto South Africa" 2020 *Development Southern Africa* 535–552.

Marchetti-Mercer *et al* 2024 *SAJP*

Marchetti-Mercer MC, Laher S, Watermeyer J and Hassem T "Load shedding, safety concerns and mental health in South Africa" 2024 *South African Journal of Psychology* 414–420

Marope and Phiri 2023 *IJHMA*

Marope and Phiri 2023. Does load shedding affect the housing market in South Africa? Some empirical evidence. International Journal of Housing Markets and Analysis 859-874.

Mashiyane, Masuku and Maphumulo 2024 *EATP*

Mashiyane DM, Masuku MM and Maphumulo MN "Powerless to learn: load-shedding and its impact on teaching and learning in South African schools" 2024 *Educational Administration: Theory and Practice* 3959–3968.

Mbana and Sinthumule 2024 *WHS*

Mbana Z and Sinthumule NI "What is there to drink? Water (in) justice in the democratic South Africa" 2024 *WHS Frontiers in Water*, p.1354477.

Mbazira 2007 *ESR*

Mbazira C "The right of access to sufficient water: monitoring review. ESR Review" 2007 *Economic and Social Rights in South Africa,* 29–33.

Mocwagae et tal *Planning for effective and sustainable water access and provision in QwaQwa through the UN sustainable development goals. In Sustainable Futures in Southern Africa's Mountains: Multiple Perspectives on an Emerging City*

Mocwagae, Mphambukeli Magaiza, Hansen, Otomo and Delves "Planning for effective and sustainable water access and provision in QwaQwa through the UN sustainable development goals. In Sustainable Futures in Southern Africa's Mountains: Multiple Perspectives on an Emerging City" 105-126 International Publishing.

Mohazzem, Biswas and Raihan Uddin 2023 *Engineering Reports*

Mohazzem H, Biswas S and Raihan Uddin M "Sustainable energy transition in Bangladesh: Challenges and pathways for the future" 2023 *Engineering Reports*, p.e12752.

Mokgwathi 2018 *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local* Municipality

Mokgwathi *Water Scarcity, Food Production & Dietary Choices of Rural Populations in Limpopo Province: A Study of Musina Local Municipality* (Doctoral dissertation, University of the Witwatersrand, Faculty of Science 2018).

Moodliar and Davison 2023 *IEEE*

Moodliar L and Davison IE "Load shedding to load hedging: Evaluating load shedding mitigation options for residential customers within eThekwini Municipality" in 31st Southern African Universities Power Engineering Conference (SAUPEC) (2003) 1–6 *IEEE*.

Mosupye *Analysis of the right to access sufficient water in South Africa*

Mosupye G *Analysis of the right to have access to sufficient water in South Africa* (Masters dissertation North-West University 2023).

Mouton Motshabi, Jeje and Henrico 2024 World Water Policy 821-858

Mouton N, Motshabi T, Jeje K and Henrico "Bulk water services delivery challenges in the Dr. Ruth Segomotsi Mompati district municipality in South Africa's North West Province". World Water Policy, 10(3) 821-858.

Mthanti 2023 *EHASS*

Mthanti B "A descriptive learning analytics: an online learning programmes and load-shedding conundrum" 2023 *E-Journal of Humanities, Arts and Social Sciences* 16–174

Murei and Momba 2022

Murei and Momba 2022 "Barriers to Water and Sanitation Safety Plans in Rural Areas *of South Africa*" A Case Study in the Vhembe District, Limpopo Province. Water, 14(8) 1244

Netswera 2022 *CJLG*

Netswera MM "Impacts of municipal re-demarcations on service delivery in South Africa" Commonwealth Journal of Local Governance (27)17-36.

Ncube B 2022

B Ncube "Indigenous knowledge perspectives on water management and its challenges in South Africa In *Current Directions in Water Scarcity Research* Vol. 4 227-242

Nowakoska and Tubisi 2015 *JPSRA*

Nowakoska M and Tubisi A "Load shedding and the energy security of Republic of South Africa" 2015 *Journal of Polish Safety and Reliability Association*, 6(3).

Omotayo *et al* 2021 *ESPR*

Omotayo AO, Olagunju KO, Omotoso AB, Ogunniyi AI, Otekunrin OA and Daud AS "Clean water, sanitation and under-five children diarrhea incidence: empirical evidence from the South Africa's General Household Survey" 2021 *ESPR* 63150–63162.

Phogole BT "Adoption of cleaner energy sources" 2021.

Phogole BT *An evaluation of the effectiveness of interventions to transition low-income households towards the adoption of cleaner energy sources on the Mpumalanga Highveld* (Master of Science (MSc), University of Johannesburg 2021.

Pindihama and Malima 2022 *AJGD*

Pindihama GK and Malima TP "Potable water security in rural South Africa: A case study of Vhembe District" 2022 *African Journal of Governance & Development*, 256–275.

Potgieter A Risk Analysis and Mitigation Framework to Reduce the Impact of Electricity Disruption on Water Supply: Based on a Cost vs Benefit Analysis

Potgieter CC A Risk Analysis and Mitigation Framework to Reduce the Impact of Electricity Disruption on Water Supply: Based on a Cost vs Benefit Analysis Case Study (University of Pretoria South Africa)

Qumbu 2021 *AJOL*

Qumbu B "The role of the courts in advancing water security in South Africa" Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad, *AJOL* 24(1)

Rankoana 2020 *IJCCSM*

Rankoana SA "Climate change impacts on water resources in a rural community in Limpopo province, South Africa: a community-based adaptation to water insecurity" 2020 *International Journal of Climate Change Strategies and Management* 1756–8692

Rodina 2016 *Geoforum*

Rodina L "Human right to water in Khayelitsha, South Africa-lessons from a 'lived experiences' perspective" *Geoforum*, 58–66.

Roux and Jansen van Rensburg 2019

Roux and Jansen van Rensburg "Access to safe water and sanitation: A psycho-social perspective on understanding the implications of load shedding in informal settlements in Cape Town, South Africa" Water SA, 45(4), 571-582

Sabatino 2022 The right to access to essential goods and the sub-Saharan Africa's courts

Sabatino 2022 The right to access to essential goods and the sub-Saharan Africa's courts 18-34

Soares Ascenção *et al* 2023 *Water*

Soares Ascenção É, Melo Marinangelo F, Meschini Almeida CF, Kagan N and Dias EM "Applications of smart water management systems a literature review" 2023 *Water*, 3492.

Soyapi 2017 *PER*

Soyapi CB "Water security and the right to water in Southern Africa: an overview" *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad*, 20(1).

Sriramakrishnan P 2022 *IJLMH*

Sri Ramakrishnan "A Critical Analysis on Right to Clean Water with Respect to Groundwater Contamination" Issue International Law of Management and Humanities 1 5:235.

Steyn 2022 *SAPL*

Steyn NR "Exploring the adequacy of South African water law in managing non-revenue water: a focus on South African cities" 2022 *Southern African Public Law,* 26.

Tyhotyholo and Ncube 2023

Tyhotyholo and Ncube 2023 "The rhetoric of community participation in urban South African water governance" Utilities Policy 82 101573.

Winkler 2008.

Winkler I "Judicial enforcement of the human right to water–case law from South Africa, Argentina and India" Law Social Justice and Global Development Journal 2008.

Wernecke and Langerman 2024 *ERSS*

Wernecke B and Langerman KE "Fuel switching and energy stacking in low-income households in South Africa: A review with recommendations for household air pollution exposure research" 2024 *Energy Research & Social Science,* 103415.

Case Law

Concerned Residents of Flag Boshielo West and Others v Sekhukhune District Municipality and Others (15437/2015) [2020] ZAGPPHC 442.

Eskom Holdings SOC Ltd v Vaal River Development Association 2023 SA 325 (CC)

Free Legal Assistance Group and Others v Zaire, Comm. No. 25/89, 47/90, 56/91, 100/93

Joseph and Others v City of Johannesburg and Others 2010 4 SA 55 (CC)

Kgetlengrivier Concerned Residents and Another v Kgetlengrivier Local Municipality and Others 2023 2 All SA 452.

Manqele v Durban Transitional Metropolitan 2002 (6) SA 423 (D).

Mazibuko and Others v City of Johannesburg and Others 2010 (4) SA 1 (CC)]

Mshengu & Others v Msunduzi Local Municipality & Others 2019 4 All SA 469 (KZN).

Sudan Human Rights Organisation and Another v Sudan, Decision, Comm. 279/03; 296/05

United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others 2023 28 *Unemployed Peoples Movement v Premier for the Province of the Eastern Cape and Others (*553/2019) [2020] ZAECGHC 47.

Legislation

Constitution of the Republic of South Africa, 1996

Electricity Regulation Act 4 of 2006

Electricity Regulation Act 4 of 2006

Infrastructure Development Act 23 of 2014

Local Government: Municipal Structures Act 117 of 1998

Municipal Structures Act 117 of 1998

National Energy Act 34 of 2008

National Water Act 36 of 1998

Systems Act 32 of 2000

The Constitution of the Republic of South Africa 108 of 1996

Water Services Act 108 of 1997

White Paper on Water Supply and Sanitation Services (1994)

Internet sources

Best Water Technology 2023 https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety-in-south-africa/

Best Water Technology 2023 *Load shedding, a threat to water safety in South Africa- H20* BWT https://h2o.co.za/blog/load-shedding-a-threat-to-water-safety-in-south-africa/ accessed 22 November 2024Habiyaremye, King and Tregenna 2022 https://www.uj.ac.za/wp-content/uploads/2021/10/sarchi-wp-2022-03-habiyaremye-king-tregenna-march-2022

Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours

Cowling 2023 https://www.statista.com/statistics/1459776/number-of-load-shedding-hours accessed April 2024.

Habiyaremye, King and Tregenna 2022 https://www.uj.ac.za/wp-content/uploads/2021/10/sarchi-wp-2022-03-habiyaremye-king-tregenna-march-2022

Habiyaremye, King and Tregenna 2022 https://www.uj.ac.za/wp-content/uploads/2021/10/sarchi-wp-2022-03-habiyaremye-king-tregenna-march-2022 accessed 01 October 2022

South African Local Government Association 2022 https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf

South African Local Government Association 2022 Load shedding impact on the provision of other municipal services eg. Water supply https://www.salga.org.za/Documents/Media%20Room/Media%20Statements/ms22/Impact%20of%20Loadshedding%20to%20Water%20Supply%20Media%20Satement%207%20June%202022.pdf accessed 22 November 2024

City of Tshwane date unknown https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf- Case Study

City of Tshwane date unknown Mitigating the impact of electricity disruption on water supply: –Case study of the City of Tshwane https://www.wrc.org.za/wp-content/uploads/mdocs/2591_final.pdf accessed 20 October 2024

United Nations Human Rights Fact Sheet no 35 2010 https://www.un.org/waterforlifedecade/pdf/human_right_to_water_and_sanitation_media_brief.pdf

United Nations Human Rights Fact Sheet no 35 2010 https://www.un.org/waterforlifedecade/pdf/human_right_to_water_and_sanitation_media_brief.pdf accessed April 2024.

South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial yearhttps://www.gov.za/documents/annual-reports/department-water-and-sanitation-annual-report-20212022-28-sep-2022

South Africa, 2022. Department of Water and Sanitation. Government Printer, Pretoria. Annual Report 21/22 financial yearhttps://www.gov.za/documents/annual-reports/department-water-and-sanitation-annual-report-20212022-28-sep-2022 accessed June 2024.

WHO 2024 South Africa's Swift Response to Imported Cholera Cases in Limpopo Province https://www.afro.who.int/countries/south-africa/news/who-south-africas-swift-response-imported-cholera-cases-limpopo-province#:~:text=WHO's%20swift%20involvement%20and%20participation,health%20emergencies%20in%20the%20country.

WHO 2024 South Africa's Swift Response to Imported Cholera Cases in Limpopo Province https://www.afro.who.int/countries/south-africa/news/who-south-africas-swift-response-imported-cholera-cases-limpopo-province#:~:text=WHO's%20swift%20involvement%20and%20participation,health%20emergencies%20in%20the%20country accessed July 2024.

HRWS United Nations date unknown https://www.unwater.org/water-facts/human-rights-water-and-sanitation

Human Rights to Water and Sanitation United Nations date unknown https://www.unwater.org/water-facts/human-rights-water-and-sanitation accessed July 2024

WC Government 2024 is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding

WC Government is making steady progress in beating load shedding. https://www.westerncape.gov.za/news/wc-government- shedding accessed August 2024

South African Government unknown date CONFRONTING THE ENERGY CRISIS: AN ACTION PLAN TO END LOAD SHEDDING https://www.gov.za/sites/default/files/gcis_document/202207/confronting-energy-crisisan-action-plan-end-load-shedding.pdf

South African Government unknown date CONFRONTING THE ENERGY CRISIS: AN ACTION PLAN TO END LOAD SHEDDING https://www.gov.za/sites/default/files/gcis_document/202207/confronting-energy-crisisan-action-plan-end-load-shedding.pdf accessed April 2024