UNIVERSITY of LUSAKA

Passion for Quality Education: Our Driving Force

SCHOOL OF LAW

AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA

By:

KABUBA LINDUNDA

LLB20121480

AN OBLIGATORY ESSAY SUBMITTED TO THE UNIVERSITY OF LUSAKA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF LAWS (LLB) DEGREE.

2025

DECLARATION

I, KABUBA LINDUNDA, do hereby declare that this dissertation titled "**AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA**" which is hereby submitted to the School of Law at the University of Lusaka as part of the requirements for the award of the Bachelor of Laws (LLB) degree, is solely of my own and that it has, to the best of my knowledge, not yet been presented for any academic purposes in Zambia or elsewhere. Other people's work and sources used in the study have been acknowledged. I hereby declare that I have read and understood the regulations governing the submission of the Bachelor of Laws Degree (LLB) dissertation including those relating to length and plagiarism, as contained in the rules of the University and that this dissertation conforms to those regulations.

……

Signature

13-11-2025

……

Date

SUPERVISOR'S RECOMMENDATION

I, **CHENELA SIMBOTWE**, do recommend that the dissertation titled '**AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA**' authored by **KABUBA LINDUNDA, STUDENT NUMBER LLB20121480** was done under my supervision, be admitted by the University. I have checked it carefully and I am satisfied that it meets the requirements related to format as laid down by the University Regulations governing directed research.

.....

CHENELA SIMBOTWE

(Supervisor)

12/11/2025

(Date)

DEDICATION

This dissertation is dedicated to My late mother Finness Bridget Phiri , my parents Mr. and Mrs Lindunda and my children Limpho Andrew Mugala,Chimwemwe Christine Mugala and Salifyanji Jessy Mugala

ACKNOWLEDGEMENTS

First and foremost, I would like to thank the Lord Almighty for guiding me throughout my law school journey, may his name be praised.

My special gratitude and thanks to my dear Husband James Lwiba Mugala and my children whose patience and endurance I greatly appreciate, I love you.

I would further like to thank my supervisor, Mrs Simbotwe, for the guidance, correction and support towards the success of this dissertation.

I'm also grateful to all the lecturers from the University of Lusaka for the knowledge I acquired all through this amazing journey.

I would also like to thank my siblings, Gift Phiri, Dennis Nkhoma and Pamela Lindunda.

A big thank you to my Private tutor Lumbanya Mulenga who has been guiding me from the time that I was admitted at the university of Lusaka, Grace Sarah from the University of Zambia, my Inspiration Tionenji Banda for her guidance and encouragement.

Thank you too to my house help Zangose Charity Phiri for taking good care of my children all the time I was away. God bless you.

And lastly, I would like to extend my gratitude to all my friends,Namely Esther Banda, Victoria Nyirenda, Patience Chilembe, Oliver Musumba , Chimwemwe Sikaundi, Sitwala Pangani, Nalishebo Mundia Pumulo Nawa Banda Intombiyesizwe Zulu, all my Unilus study buddies group and all those I haven't mentioned.

TABLE OF CONTENTS

Table of Contents

ABSTRACT

Mining operations in Zambia create significant environmental and human health risks, yet it is observed that the country's legal framework has not been adequate in addressing these challenges. This dissertation was an appraisal of the Minerals Regulation Commission Act No. 14 of 2024, which is the current primarily legislation that governs environmental and health protection in Zambian mining operations, and compares it with South Africa's more comprehensive legislative and regulatory framework. This critical analysis was undertaken through a doctrinal legal analysis and comparative methodology, which reveals critical gaps in Zambia's legislation, some of which include the use of permissive rather than mandatory language that creates discretionary considerations as opposed to enforceable obligations, the absence of mandatory financial provisioning for mine rehabilitation and closure, weak enforcement mechanisms due to under-resourced regulatory institutions, and the complete omission of human rights due diligence requirements.

The research based these deficiencies when compared against the background of the international legal framework established by the Rio Declaration, ILO Convention No. 176 on Safety and Health in Mines as well as the UN Guiding Principles on Business and Human Rights. Recent environmental disasters, such as the February 2025 Sino-Metals tailings dam failure which lead to the contamination of the Kafue River system and the ongoing legacy of lead contamination in Kabwe, make the urgent need for reform more than apparent. On the other hand, South Africa's Mine Health and Safety Act and Mineral and Petroleum Resources Development Act demonstrate that developing countries do actually have the capacity and potential to implement comprehensive frameworks combining constitutional environmental guarantees, mandatory financial security, tripartite governance structures, and enforceable community benefit mechanisms. This dissertation then concluded that Zambia's current framework structurally enables the externalization of environmental and health costs onto communities and future generations. This notwithstanding, the study recommended legislative amendments to mandate rather than permit health and environmental protections, establish ex-ante financial provisioning requirements modeled on South Africa's approach, implement human rights due diligence obligations, strengthen institutional capacity through

dedicated funding mechanisms, and clarify overlapping mandates among regulatory bodies.

CHAPTER ONE

1.0 INTRODUCTION

Mining is a major part of Zambia's economy as it is an industry that provides jobs and income for many of the people. However, mining can also have far reaching devastating consequences on the environment and people's health if not done with their safety in their consideration. While Zambia does have laws aimed at protection mine workers and the environment, the perpetual environmental devastation seems to suggest that these laws are either weak, unclear or does not properly set out an enforcement mechanism that actually makes these laws effectual.

South Africa has more detailed laws that require mining companies to keep workers safe and protect the environment. These laws place the responsibility for safety of mine workers on the companies themselves. As such, this dissertation will take a leaf from South Africa's approach in a bid to improve its own laws so that they better protect people and nature.

Therefore, this study will examine how mining affects health and the environment in Zambia. It will compare Zambia's laws with South Africa's to see where improvements can be made.

1.1.0 BACKGROUND OF THE STUDY

Mining plays a crucial role in Zambia's economy, particularly in the Copperbelt Province. However, recent events have shown a significant environmental and health challenges associated with mining activities. On February 18, 2025, it was reported that a catastrophic failure of a tailings dam at Sino-Metals Leach Zambia released approximately 50 million liters of acidic waste into the Mwambashi and Kafue Rivers.[1] This spill severely contaminated water sources, negatively affecting aquatic life, agriculture and the livelihoods of communities in surrounding areas such as Kitwe, Chambishi, and Kalulushi. The incident disrupted water supply to nearly 500,000

[1] https://www.lusakatimes.com/2025/02/27/government-to-launch-independent-investigation-into-mining-pollution-of-kafue-and-mwambashi-rivers (accessed on 17/04/2025)

households in Kitwe, showing the far reaching consequences and impact that these vulnerable natural resources create if they are not properly protected.[2]

In response, the Zambian government suspended operations at the responsible mine and launced an independent investigation to assess the environmental impact and determine who should be held responsible for the disaster. Environmental organizations, such as the World Wide Fund for Nature Zambia, have also called for comprehensive audits to be conducted of all tailings dams so that future incidents of this kind are prevented. One things, however, that these developments expose is the systemic issues in environmental oversight and enforcement within the mining sector.[3]

On the other hand, safety is not just about the environment but also the workers who are in the closest proximity and first hand casualties to many of these environmental disasters. In the first half of 2023, Zambia recorded 12 fatal mining accidents and 14 serious incidents, raising alarms about mineworker safety. The Mines Safety Department (MSD), the government department responsible for ensuring safe mining practices, has acknowledged its limitation in conducting regular inspections due to inadequate funding and resources. This inability to exercise adequate oversight increases the risk of accidents and makes more pressing the need for stronger regulatory frameworks.[4] As a consequence of these life lost, the country's economy also suffers and the well being of the families left behind is also affected.[5]

When compared to South Africa, it is noted that it has stricter laws that require mining companies to ensure the safety of their workers and the environment. These laws make it mandatory for the mines safety department to conduct regular safety checks and hold

---

[2] https://diggers.news/guest-diggers/2025/03/10/the-environmental-toll-of-mining-on-zambias-copperbelt-part- (accessed on 17/04/2025)

[3] https://www.zambiamonitor.com/environmental-group-demands-nationwide-audit-of-tailings-dams-after-kafue-river-pollution (accessed on 17/04/2025)

[4] https://zambianbusinesstimes.com/mines-safety-department-lacks-resources-for-nationwide-inspections-director-admit (accessed on 17/04/2025)

[5] https://www.bing.com/search?q=Accidents+in+mines+are+also+a+concern.+In+the+first+half+of+2023%2C+there+were+12+fatal+accidents+and+14+serious+incidents+in+Zambian+mines.+These+accidents+not+only+cause+loss+of+life+but+also+affect+the+country%27s+economy+and+the+well-being+of+workers%27+families.&gs_lcrp=EgRlZGdlKgYIABBFGDkyBggAEEUYOagCALACAA&FORM=ANCMS9&PC=U531 (accessed on 17/04/2025)

companies liable for any harm they cause. By examining South Africa's legal framework, Zambia can learn from their regulatory regime and identify effective strategies to enhance its own mining regulations, in a bid to protect both the environment and human health more effectively

1.2.0 STATEMENT OF THE PROBLEM

Mining operations have a significant impact on the environment and human health. To address these challenges, Zambia has established legal frameworks that set conditions for safety, environmental protection, and health standards in the mining sector. However, Zambia's legal framework has gaps that require urgent attention.

Zambia's **Section 59(1) of the Minerals Regulation Commission Act**[6] states that: ***"The Commission shall, in deciding whether or not to grant a mining right or mineral processing licence, take into account the need to (a) conserve and protect the (i) air, water, soil, flora, fauna, fish, fisheries and scenic attractions; and (ii) features of cultural, architectural, archaeological, historical or geological interests; and (b) ensure that any mining or mineral processing activity prevents any adverse socio-economic impact or harm to human health, in or on the land over which the right or licence is sought."*** While this provision recognizes the importance of environmental and human health considerations, it lacks specific requirements for continuous safety monitoring and mitigation measures. The law does not explicitly impose a duty on mining companies to maintain a safe working environment or provide protective equipment.

Further, **Section 63 of the Act** [7]establishes a clear framework for dealing with wasteful mining practices. If the Commission identifies such practices, it can issue a notice, request remedial actions, and suspend operations until corrective measures are taken. If mining companies fail to comply, their licenses may be revoked. This provision aims to hold mining operators accountable for environmentally harmful practices. However, the implementation of this provision will depend on the capacity of the MRC to monitor and enforce compliance effectively.

[6] Act No. 14 of 2024
[7] Ibid

In addition, **Section 60(1)(c) of the Minerals Regulation Commission Act,**[8] states that: "The conditions subject to which a mining right is granted or renewed shall include conditions that may be prescribed by the Minister, by statutory instrument, or as the Minister may, in a particular case, otherwise determine, in relation to the (c) protection of human health, in consultation with the Minister responsible for health." This provision leaves discretion to the Minister without setting mandatory safety standards.

Despite these provisions, Zambia's law lacks clarity on enforcement and accountability measures for non-compliance. There is no specific legal obligation placed on mining companies to actively monitor and report safety and health statistics. The law does not establish a clear responsibility for top executives of mining companies to ensure compliance, which weakens accountability. Additionally, it does not explicitly require ongoing safety measures for mines that are not operational but still pose risks to surrounding communities

Also, Zambia's law does not clearly explain what happens if a mine causes environmental damage and the company closes or the owner disappears. **Section 63 of Zambia's Minerals Regulation Commission Act**[9] says a mining licence can be cancelled if the miner uses bad methods and does not fix the damage in time. But it does not say what to do if the company no longer exists

Zambia's **Minerals Regulation Commission Act**[10] under **Section 65(7)** [11]does allow people or groups to take legal action to protect the environment. But it does not explain how money will be found to fix the damage if the company refuses to pay.

This study will therefore, examine how mining affects health and the environment in Zambia.

[8] Ibid
[9] Act No. 14 of 2024
[10] Act No. 14 of 2024
[11] Ibid

1.3.0 GENERAL OBJECTIVE

1.3.1 RESEARCH OBJECTIVES

1. To analyze the international legal framework governing environmental and human health protection in mining operations.
2. To evaluate how PART VI of the Minerals Regulations Commissions Act No. 18 of 2024 addresses the protection of human health and the environment from mining operations.
3. To assess the South African legal framework on environmental and human health protection in mining operations.

1.3.2 RESEARCH QUESTIONS

1. What are the international legal frameworks governing environmental and human health protection in mining operations?
2. How does the Zambian legal framework regulate environmental and human health protection in mining operations?
3. How does the South African legal framework address environmental and human health protection in mining operations?

1.4.0 SIGNIFICANCE OF THE STUDY

This study is significant because it aims to identify gaps and weaknesses in Zambia's legal framework for protecting the environment and human health in mining operations. By comparing Zambia’s laws with South Africa’s more developed regulations, the study can provide useful recommendations for improving Zambia's mining laws. The findings could help policymakers, mining companies, and local communities understand how to better safeguard both the environment and human health, ensuring that mining operations are sustainable and responsible.

1.5.0 LITERATURE REVIEW

Igbayiloye and Bradlow [12]assess mining laws in South Africa and Kenya, emphasizing that governments often favor economic interests over protecting communities and the environment. They argue for stronger laws to safeguard human rights. This study differs by specifically comparing Zambia's laws with South Africa's to find ways Zambia can better protect its people and environment.

Mukuka [13]focuses on how local authorities in Zambia's North-Western Province monitor environmental compliance in mining. He finds that despite having laws, enforcement is weak due to limited resources and coordination. This study expands on his findings by looking at national-level legal gaps and comparing them with South Africa's more robust system to suggest comprehensive improvements for Zambia.

Patricia S. Kasapatu,[14] focused on how Zambia controls water pollution from copper mining. She looked at the laws and how they include things like community involvement, public access to environmental information, and tools like eco-taxes to reduce pollution. She found that Zambia does have laws, but they are not fully effective. People in affected areas are not always included in decisions, and enforcement is weak. She suggested that environmental rights should be included in the Constitution, and that both government rules and eco-taxes can help reduce pollution.

This study is different from Kasapatu's because it does not only look at water pollution. It also looks at how mining affects people's health and how mines are managed in general, especially when it comes to safety. While Kasapatu talks about community rights and

[12] Igbayiloye, O. B., & Bradlow, D. D. (2021). An Assessment of the Regulatory Legal and Institutional Framework of the Mining Industry in South Africa and Kenya for Effective Human Rights Protection. African Human Rights Law Journal, 21(1).
[13] Mukuka, F. (2020). Establishing a Mining Environmental Monitoring and Compliance Mechanism for Local Authorities in Zambia: A Case Study of North-Western Province. University of Zambia.
[14] Kasapatu, Patricia S. (2013). An Evaluation of the Zambian Regulatory Framework Governing Water Pollution Caused by Copper Mining.

pollution taxes, this study compares Zambian and South African laws to see how Zambia can improve mining safety and health rules not just reduce pollution.

Carolyn Abbot [15]examined the problems governments face in enforcing pollution control laws. She focused more on how difficult it is to get industries to follow the rules, even when those rules exist. She noted that without strong enforcement, even the best-written laws fail. Abbot also pointed out that lack of funding and political will often make enforcement weak, and this lets companies pollute without serious consequences.

This study builds on Abbot's work by going beyond enforcement problems. It compares two legal systems Zambia and South Africa and focuses on how laws can be made clearer and stronger from the start. Instead of just pointing out enforcement problems, this study tries to suggest new rules that would make it harder for companies to avoid responsibility, even if enforcement is weak.

Bertha Z. Osei-Hwedie [16]wrote about how Africa, and Zambia in particular, faces a double problem: poor development and environmental damage. She explained that economic goals often push governments to ignore environmental risks, especially in mining. She also said that protecting the environment and growing the economy should go together, but this balance is hard to achieve in practice.

This study agrees with Osei-Hwedie that economic growth often comes at a cost to the environment. However, it adds a new dimension by focusing on how mining also affects human health and not just the environment. It also offers a way forward by comparing Zambia's laws to those of South Africa, to suggest changes that can help Zambia achieve that balance between mining and safety more effectively.

Davies Wambwa observes that, despite the consolidation of environmental licensing under the Minerals Regulation Commission Act No. 14 of 2024, overlapping mandates among the Ministry of Mines, the Zambia Environmental Management Agency (ZEMA), and the new Commission have perpetuated compliance gaps; field audits required under

[15] Abbot, Carolyn. (2009). Enforcement and Environmental Regulation: The Challenge of Ensuring Compliance.
[16] Bertha Z Osei-Hwedie, Environmental Protection and Economic Development in Zambia

the Environmental Protection Fund are seldom followed by on-site inspections due to resource constraints.[17]

Negi's[18] study on the politics of mining in Zambia's Northwestern Province focuses on the socio-political aspects of mining, particularly the privatization and its effects on labor unions and civil society. While Negi highlights the political contestations surrounding mining, this study diverges by focusing on the environmental and health risks of mining, specifically comparing Zambia's regulatory framework with that of South Africa to propose actionable recommendations for strengthening Zambia's laws.

Bonnie Campbell's, [19]looks at how mining laws in Africa were changed in the 1980s and 1990s to encourage foreign investment. The book explains how countries like Ghana, Guinea, Mali, Madagascar, and Tanzania developed mining laws and environmental rules during this time. Campbell's work highlights how these legal reforms often favored investors more than local communities or the environment. While her study is useful in understanding how mining laws were shaped in Africa, it does not include Zambia as a case study. This research is different because it focuses only on Zambia, and it also compares Zambia's legal approach to that of South Africa. The aim is not just to trace legal changes, but to assess how current laws in Zambia affect health and the environment, and what lessons can be learned from South Africa.

Ashton, Love, Mahachi, and Dirks[20], in their report on the impacts of mining in the Zambezi, Limpopo, and Olifants river basins, focus mainly on how mining affects water quality in Southern Africa. They also look at the challenges posed by overlapping laws and the need to update mining legislation to meet environmental goals. Their report is

---

[17] Davies Wambwa, "Environmental Protection Fund audits in Zambia: A strategy for ensuring regulatory compliance in Zambia's mining sector," *Extractive Industries and Society* 16 (2023): 101353, doi:10.1016/j.exis.2023.101353 https://www.researchgate.net/publication/375890454_Environmental_Protection_Fund_audits_in_Zambia_A_strategy_for_ensuring_regulatory_compliance_in_Zambia%27s_mining_sector

[18] Negi, R. (2011). *The Micro Politics of Mining and Development in Zambia: Insights from the Northwestern Province*, African Studies Quarterly, 12(2).

[19] Campbell, B. (Ed.). *Regulating Mining in Africa: For whose benefit?* Nordic Africa Institute Discussion Paper No. 26.

[20] Ashton, P.J., Love, D., Mahachi, H., & Dirks, P.H.G.M. (2001). *An Overview of the Impact of Mining and Mineral Processing Operations on Water Resources and Water Quality in the Zambezi, Limpopo and Olifants Catchments in Southern Africa*. CSIR Environmentek, Pretoria, South Africa and University of Zimbabwe, Harare.

detailed in how it links water pollution to mining operations, and it includes some legal issues affecting the region. However, the study covers many countries at once and gives little attention to Zambia alone. It also only focuses on water pollution. This study, on the other hand, will focus entirely on Zambia and will cover other types of pollution such as air and soil contamination. It will also go further by comparing Zambia's law with South Africa's legal framework to suggest how Zambia can improve its environmental and health protection laws in mining.

Priscilla Kaela Kangwa,[21] in her thesis on copper mining in Zambia, looks at the economic, social, and environmental impacts of mining in the Copperbelt. She finds that copper mining brings in foreign investment but gives very little benefit to local people. Her study also shows that mining has hurt the environment and damaged social support systems. While her research offers valuable insight into how mining affects local communities, it mostly looks at the effects rather than how the legal system can respond. This study is different because it focuses on the laws that are supposed to protect people and the environment during mining operations. It also compares Zambia's laws to those in South Africa to help suggest legal improvements that could prevent harm before it happens.

1.6.0 METHODOLOGY OF THE STUDY

This study will adopt a qualitative doctrinal legal research methodology, suitable for analysing legislation, case law, and international instruments. The focus will be on Zambia's Minerals Regulation Commission Act No. 14 of 2024 and South Africa's Mine Health and Safety Act and Mineral and Petroleum Resources Development Act. These will be analysed alongside international frameworks such as ILO Convention No. 176 and the UN Framework Principles on Human Rights and the Environment.

The methodology will further incorporate comparative analysis with South Africa's legal regime to extract relevant lessons for Zambia.

[21] Kangwa, P. K. *An Assessment of the Economic, Social and Environmental Impacts of the Mining Industry – A Case Study of Copper Mining in Zambia*, MSc Thesis, Lund University.

1.6.1 DATA COLLECTION

The study will collect information in two main ways: **interviews** and **document review**.

First, **interviews** will be done with key people such as officials from the Mines Safety Department, members of the Environmental Management Agency, lawyers who work with mining laws, and people from civil society groups that deal with environmental and health issues in mining areas. These interviews will help the study understand what is really happening on the ground—what is working, what is not, and why.

Second, the study will look at **documents**. These include Zambia's *Minerals Regulation Commission Act*, South Africa's *Mine Health and Safety Act*, and *Mineral and Petroleum Resources Development Act*. The researcher will also read reports from the government, NGOs, and media stories about mining accidents and pollution cases. These documents will help show how the law is written and how it is being followed or ignored.

1.6.2 DATA ANALYSIS

The information from the interviews and documents will be studied using **thematic analysis**. This means the researcher will read through all the data and look for common ideas or issues that appear again and again. For example, if many people say that inspections are not done regularly, that will be one theme. If others say that mining companies are not punished when they break the law, that will be another theme.

This way of analyzing helps the researcher to understand the main problems and possible solutions in a simple and organized manner. The goal is to find the most important issues that affect environmental safety and health in mining and to suggest clear ways to improve the law.

1.6.3 LIMITATIONS

One challenge in this study is that it may not talk to everyone affected by mining. Some voices may be missed. Also, some documents may not be easy to get or may be out of date. However, the study will try to speak to a wide range of people and look at many different sources to get a full picture. The aim is not to cover everything, but to understand the main gaps in Zambia's legal system and suggest how it can be improved by learning from South Africa.

1.7.0 SCOPE OF THE STUDY

The study will focus on examining the legal frameworks in Zambia and South Africa, specifically looking at the protection of the environment and human health in mining operations. It will cover relevant laws, including PART VI of Zambia's Minerals Regulation Commission Act No. 14 of 2024 and South Africa's Mine Health and Safety Act. The study will analyze these laws, their provisions, and their effectiveness in protecting both the environment and workers in the mining sector, with a focus on areas where Zambia could improve.

1.8.0 ETHICAL CONSIDERATIONS

Before doing interviews, the researcher will explain the purpose of the study to all participants. People will only take part if they agree freely. Their names and personal information will not be shared. Everything they say will be kept private and used only for this study. This is important because it helps people to speak freely and gives the study honest and reliable information.

1.9.0 CHAPTERS OUTLINE

CHAPTER 1: INTRODUCTION

This chapter will provide background information on the impact of mining on the environment and human health. It will explain the importance of legal frameworks in regulating mining activities and protecting communities. The statement of the problem, research objectives, questions, significance, and methodology will also be presented.

CHAPTER 2: INTERNATIONAL LEGAL FRAMEWORK ON ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING

This chapter will review international standards and treaties such as the Rio Declaration, ILO Conventions, and the UN Guiding Principles on Business and Human Rights. It will analyze how these influence national laws on mining safety and environmental protection. The chapter will also explore best practices from international environmental law.

CHAPTER 3: THE ZAMBIAN LEGAL FRAMEWORK ON ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING

This chapter will examine key Zambian laws, focusing on the Minerals Regulation Commission Act. It will discuss gaps in safety enforcement, environmental damage response, and worker protection. The chapter will also analyze the role of the MRC in monitoring compliance and the limitations in legal accountability.

CHAPTER 4: THE SOUTH AFRICAN LEGAL FRAMEWORK ON ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING

This chapter will assess the Mine Health and Safety Act and the Mineral and Petroleum Resources Development Act. It will highlight how these laws enforce safety standards, require regular health reports, and ensure environmental rehabilitation. A comparison with Zambia's framework will be made to show strengths and lessons for Zambia.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

This chapter will summarize key findings from the comparative analysis. It will highlight the legal gaps in Zambia and draw lessons from South Africa's framework. Clear recommendations will be made to improve Zambia's laws, enforcement mechanisms, and mining company accountability to protect both health and the environment.

CHAPTER TWO

THE INTERNATIONAL LEGAL FRAMEWORK GOVERNING ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING OPERATIONS

2.0 Introduction

Mining has always been a double-edged sword. On one hand, it supplies the world with the minerals that fuel industry, power electricity grids, and enable the digital technologies on which modern society depends. On the other, mining leaves scars on landscapes, pollutes rivers and soils, and often endangers the very communities that live closest to extraction sites.

This chapter sets out to explain the international legal framework that governs environmental protection and human health in mining operations. To do this, the discussion will first explore the global environmental movement that culminated in the Rio Declaration of 1992, before turning to specific multilateral environmental treaties that touch directly on mining practices. The chapter will then shift to international labour standards, particularly the **International Labour Organization's Safety and Health in Mines Convention**[22], which is the most comprehensive international instrument dealing specifically with miners' health and safety. Finally, focus will be given to recent developments in human rights law, such as the United Nations Guiding Principles on Business and Human Rights, and any other emerging norms such as the recognition of the right to a clean and healthy environment.

2.1 THE RIO DECLARATION AND THE RISE OF ENVIRONMENTAL AWARENESS

The early 1990s marked a turning point in how development is understood. Until then, industrial and economic growth was often pursued with little regard to the cost and damage it would have to the environment.[23] The 1972 Stockholm Conference had raised the cautionary alarm, which was echoed in the 1992 Earth Summit in Rio de Janeiro that

[22] *(No 176)* (adopted 22 June 1995, entered into force 5 June 1998) 1966 UNTS 313 (ILO C176).
[23] Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th edn, CUP 2018) 199–203.

gave the international community a shared language for sustainable development. Out of this summit, the **Rio Declaration on Environment and Development**[24] was born.

The Rio Declaration set out the global environmental concerns and codified them into twenty-seven principles. These principles were set out as broad commitments meant to guide both states and industries in balancing development with ecological responsibility, most of which are especially cardinal for the mining industry.

Principle 2, for instance, affirms the right of states to exploit their own natural resources. At first glance, this might seem like a green light for unrestrained mining. However, the same principle also imposes a duty on states to the effect that they must ensure that activities within their jurisdiction do not cause damage to the environment of other states or to areas beyond national jurisdiction.

Furthermore, **Principle 10** was groundbreaking in its insistence on public participation. It recognized that those who bear the brunt of environmental harm must have a voice in decision-making. In mining, this has translated into requirements for public hearings during environmental impact assessments and into stronger rights for indigenous and local communities to be consulted before projects are approved.[25]

Principle 15 introduced what has come to be known as the “precautionary principle.” Mining often involves uncertainty: no one can predict with certainty how a tailings dam will behave over decades, or how deep-sea mining might disrupt fragile marine ecosystems. The precautionary principle tells regulators and companies not to wait for conclusive proof of harm but to take preventative action when there is a plausible risk of serious or irreversible damage.[26]

Finally, **Principle 16** made the simple yet powerful assertion that polluters should pay for the damage they cause. For mining companies, this has meant a growing expectation

[24] UN Doc. A/CONF.151/26 (Vol. I), 31 ILM 874 (1992)
[25] Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th edn, Cambridge University Press 2018) 251–253.
[26] ibid

that they set aside financial reserves for rehabilitation and closure and that they bear liability for accidents such as toxic spills.

Although the **Rio Declaration** was soft law, its influence has been profound. Its principles have been incorporated into national constitutions, legislation, and even court decisions. Countries like South Africa, India, and Brazil regularly reference these principles in judicial rulings related to mining and environmental disputes.[27] In this sense, Rio provided the ethical and legal compass for sustainable mining governance.

2.2 MULTILATERAL ENVIRONMENTAL AGREEMENTS AND MINING

The Rio Declaration was followed by a number of binding international treaties that, both directly and others indirectly address mining practices.

The **Basel Convention of 1989**[28] was enacted with the aim of controling the movement of hazardous wastes between countries. It is reported that mining activities generates vast quantities of waste rock and other wastages such as sludge, contaminated tailings, often containing arsenic,lead, or mercury.[29] The Basel Convention ensures that these hazardous wastes are no simply be exported from wealthy countries to poorer ones without strict conditions and oversight.

In addition, the **Stockholm Convention on Persistent Organic Pollutants**[30] was adopted in 2001 and is another treaty whose provisions are relevant to mining. Certain processes in mineral extraction and refining release chemicals that persist in the environment and accumulate in the food chain. Consequently, by restricting and in some cases, completely eliminating the use of these hazardous chemicals, the Stockholm Convention has nudged the mining industry toward cleaner technologies.

---

[27] Rajamani, Lavanya, 'The Contribution of the Rio Declaration to the Development of International Environmental Law' (2000) 49 *International and Comparative Law Quarterly* 850.
[28] *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* (adopted 22 March 1989, entered into force 5 May 1992) 1673 UNTS 126.
[29] Daniel M Franks, David V Boger, Claire M Côte and David R Mulligan, 'Sustainable Development Principles for the Disposal of Mining and Mineral Processing Wastes' (2011) 29 *Resources Policy* 114.
[30] *Stockholm Convention on Persistent Organic Pollutants* (adopted 22 May 2001, entered into force 17 May 2004) 2256 UNTS 119.

Perhaps the most directly relevant to mining is the **Minamata Convention on Mercury**[31], signed in 2013. Artisanal and small-scale gold mining is the largest single source of mercury pollution in the world. Entire communities, sometimes children, are exposed to mercury fumes during the amalgamation process.[32] The Minamata Convention obliges states to develop strategies to reduce and eventually eliminate mercury use in such mining. For countries in sub-Saharan Africa and South America where artisanal mining provides livelihoods, this treaty has been transformative, not only as an environmental measure but also as a public health intervention.

Finally, the Paris Agreement on climate change, although not a mining treaty, has significant consequences for the sector. Mining is both an emitter of greenhouse gases and the source of minerals like lithium and cobalt that are critical for renewable energy technologies. The Paris Agreement therefore places mining at the heart of the global energy transition: mining must become cleaner and more efficient, even as demand for its products grows.

2.3 THE PROTECTION OF WORKERS: ILO STANDARDS

The International Labour Organization (ILO) has, since its founding in 1919, adopted numerous conventions dealing with occupational safety and health. Yet the mining industry, with its unique hazards, required special attention. This came in 1995 with the adoption of the **Safety and Health in Mines Convention (No. 176).**[33]

Convention No. 176 sets out a comprehensive framework for protecting miners. It requires governments to establish national laws ensuring that mines are designed, constructed, and operated in a way that minimizes risks. Employers must identify hazards, provide protective equipment, monitor workers' health, and establish emergency procedures. Workers, in turn, have the right to receive training, to report unsafe conditions, and to refuse dangerous work without fear of retaliation.

---

[31] *Minamata Convention on Mercury* (adopted 10 October 2013, entered into force 16 August 2017) 55 ILM 582.
[32] n 33
[33] n 26

The Convention also requires states to establish effective inspection systems and to enforce penalties against non-compliant companies.[34] What makes Convention No. 176 significant is not just its technical detail but its recognition of miners as rights-holders. It moves away from viewing accidents as inevitable and instead insists that safe mining is both possible and obligatory.

Despite its importance, **Convention No 176** has been ratified by only a limited number of states—35 as of June 2024.[35] Nonetheless, its principles have exerted wider normative influence. In South Africa, for example, the **Mine Health and Safety Act 29 of 1996** reflects the core requirements of **Convention No. 176**. For instance, **Section 9(1)** obliges employers to provide and maintain, "as far as reasonably practicable, a working environment that is safe and without risk to the health of employees," mirroring **Articles 3 and 4** of **Convention 176**, which require safe and healthy working conditions in mines. Similarly, **Section 23(1)–(3)** codifies employees' right to **withdraw from unsafe work situations**, in line with **Articles 11 and 12** of the **Convention.** Moreover, scholarly analysis confirms that the **Mine Health and Safety Act**[36] closely follows the Convention by incorporating worker-selected health and safety representatives (HSRs), a key element of **Convention 176**.[37]

In Chile, although only recently ratifying Convention 176, its mining safety regime has long been shaped by the Convention's framework. Reports note that the Convention "establishes a legal and inspection framework to promote safety in mines and a dignified working environment," and that its principles are invoked in revisions to national mine safety laws.[38]

---

[34] Article 4 (1)
[35] International Labour Organization, 'Safety and Health in Mines Convention, 1995 (No. 176)' (NORMLEX, June 2024) https://normlex.ilo.org/dyn/nrmlx/en/f?p=NORMLEXPUB:11300:0::NO::P11300_INSTRUMENT_ID:312321 accessed 20 August 2025.
[36] n 39
[37] Nancy Coulson, 'Worker Health and Safety Representatives on South African Mines: A Compassionate Voice in the Face of Employer Dominance and Health Complexity' (2020) 7(1) *The Extractive Industries and Society* 1, 5–6
[38] IndustriALL Global Union, 'Chile finally ratifies ILO C176 on mine safety' (2024) https://www.industriall-union.org/chile-finally-ratifies-ilo-c176-on-mine-safety accessed 20 August 2025

2.4. HUMAN RIGHTS STANDARDS: THE UN GUIDING PRINCIPLES

As international law developed through the 1990s and early 2000s, it became increasingly clear that mining posed not only environmental and occupational challenges but also broader human rights issues. Communities were being displaced to make way for mines. Rivers were being polluted, threatening the right to water and food. In conflict zones, revenues from mining were fueling violence.[39]

In response to these realities, the United Nations Human Rights Council endorsed the **Guiding Principles on Business and Human Rights in 2011**. Unlike earlier instruments, the Guiding Principles spoke directly to corporations, not just states. They set out three pillars: the duty of states to protect human rights, the responsibility of businesses to respect human rights, and the right of victims to remedy.

For mining companies, this has meant an expectation that they carry out human rights due diligence. This involves systematically assessing the potential human rights impacts of their operations, consulting with affected communities, and taking steps to prevent harm. If harm does occur, companies are expected to provide or cooperate in providing remedies, such as compensation or rehabilitation.[40]

Although not legally binding, the UN Guiding Principles have gained remarkable traction. They have been incorporated into the policies of major mining corporations and have inspired national action plans in countries as diverse as the United Kingdom, Kenya, and Colombia. They have also influenced emerging legislation in the European Union on mandatory due diligence for companies.[41]

2.5 EMERGING NORMS AND BEST PRACTICES

Beyond formal declarations and treaty obligations, a number of best practices have crystallised in the international legal landscape. Environmental Impact Assessments (EIAs), once a voluntary planning tool, are now widely recognised as a mandatory

---

[39] Alan Boyle and Catherine Redgwell, *International Law and the Environment* (4th edn, Oxford University Press, 2021)
[40] UN Human Rights Council, *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework* (2011) UN Doc A/HRC/17/31 (UNGPs) https://www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf
[41] (A/HRC/RES/48/13)

component of environmental governance in many jurisdictions, including Zambia. The International Court of Justice has confirmed the customary nature of this obligation in ***Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment)**[42] where the Court held that conducting an EIA is a requirement under general international law whenever a project may have significant adverse transboundary effects. In that case, Uruguay's authorisation of pulp mill construction without sufficient prior environmental assessment and consultation was found to breach its procedural duties under the 1975 Statute of the River Uruguay. Mining projects today almost universally require such assessments, which consider environmental and health impacts and include opportunities for public participation.

Another significant development is the formal recognition of the right to a healthy environment as a fundamental human right. On 8 October 2021, during its 48th session in Geneva, the **United Nations Human Rights Council** adopted **Resolution 48/13**[43], titled *"The human right to a clean, healthy and sustainable environment."* This was the first time the Council explicitly recognized this right and thereby affirming its crucial necessity to matters of human dignity and well-being. The resolution, introduced by a core group of States (Costa Rica, the Maldives, Morocco, Slovenia, and Switzerland), was adopted with 43 votes in favour, none against, and 4 abstentions.[44]

At the regional level, the **Inter-American Court of Human Rights**[45] has gone further by treating this right as legally enforceable. In its landmark **Advisory Opinion OC-23/17 of 15 November 2017**,[46] issued at the request of Colombia, the Court recognized the right to a healthy environment as an autonomous fundamental right. The Court clarified that States have obligations to prevent environmental harm, conduct environmental impact assessments, cooperate in cases of transboundary damage, apply the precautionary

[42] [2010] ICJ Rep 14, paras 197–205
[43] (A/HRC/RES/48/13),
[44] https://www.ohchr.org/en/press-releases/2021/10/human-rights-council-adopts-four-resolutions-right-development-human-rights?utm_source=chatgpt.com
[45] inter-Am. Ct. H.R.
[46] Advisory Opinion OC-23/17 of November 15, 2017 Requested by the Republic of Colombia: The Environment and Human Rights, Inter-American Court of Human Rights (IACrtHR), 15 November 2017, https://www.refworld.org/jurisprudence/caselaw/iacrthr/2017/en/123157 [accessed 20 August 2025]

principle, and guarantee public participation, access to information, and access to justice in environmental matters.

More recently, in its **Advisory Opinion OC-32 of 3 July 2025** (*Climate Emergency and Human Rights*), the Court went even further by for the the first tine recognising the **human right to a healthy climate**, as part of the broader right to a healthy environment (Inter-American Court of Human Rights, *Advisory Opinion OC-32*, 3 July 2025. In this opinion, the Court emphasized States' legal obligations to mitigate climate change, prevent environmental harm, and also providing remedies or means of compensation to affected populations - stressing that climate inaction threatens fundamental human rights. The Court also emphasized the need for climate governance to be informed by scientific knowledge and Indigenous perspectives, framing climate change as one of the most urgent human rights challenges of our time.

A glean of the above authorities and opinions makes it rather clear that mining activities are expected to align with this pro-environmentally conscious agenda. The recognition of the right to a healthy environment at both the international and regional levels strengthens the claims of communities exposed to toxic air, polluted water, and degraded ecosystems. Communities can now invoke Resolution 48/13 before global forums and rely on the Inter-American Court's jurisprudence (OC-23/17 and OC-32) to demand enforceable obligations from States. This entails that mining-affected populations are no longer solely dependent on national environmental laws; they can frame their grievances in terms of violations of fundamental human rights, thereby elevating their struggles to the level of international law.

Voluntary initiatives also play a role. The **Extractive Industries Transparency Initiative**[47] (EITI) requires companies and governments to disclose revenues and contracts, reducing opportunities for corruption and ensuring that mining benefits are shared more fairly. Corporate social responsibility frameworks and sustainability certifications increasingly require adherence to international environmental and labour

[47] Extractive Industries Transparency Initiative (EITI), *The EITI Standard* (2023) https://eiti.org/eiti-standard accessed 20 August 2025.

standards. These initiatives, though not binding, create market incentives for responsible mining.

2.6.0 CONCLUSION

The international legal framework governing environmental and human health protection in mining operations is not found in a single treaty or institution. Rather, it is a myriad of principles, conventions, and best practices which, when pieced together, shape how mining is regulated around the world. From the Rio Declaration's broad principles of sustainability, participation, and precaution, to the ILO's detailed labour standards, to the UN's insistence on corporate human rights responsibilities, it is clear to see that the framework is quite dynamic and they collectively provide the basis on which states build their national mining laws and against which corporations measure their responsibilities.

CHAPTER 3

THE ZAMBIAN LEGAL FRAMEWORK ON ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING

3.0 INTRODUCTION

The preceding chapter established that international law provides a robust normative framework to govern mining in a manner that protects the environment and human health. This chapter applies that framework as an analytical lens to conduct a critical examination of Zambia's primary mining legislation, the Minerals Regulation Commission Act No. 14 of 2024 (MRC Act). Zambia's deep-seated economic reliance on mining makes the efficacy of this regulatory regime a matter of national imperative. The recent tailings dam disaster at Sino-Metals Leach Zambia, which contaminated the Kafue River system, is not a mere incident but a symptom of systemic regulatory failure. The critique is rooted in the Act's own provisions, using international standards to illuminate the gravity of its shortcomings and to lay the groundwork for the comparative lessons to be drawn from South Africa in Chapter 4.

3.1 A TEXTUAL DECONSTRUCTION: HOW DRAFTING LANGUAGE UNDERMINES PROTECTION

The MRC Act's most significant failures are embedded in its choice of words, which create a framework of discretion rather than imposing clear duty. Section 59(1), for instance, requires the Commission to "take into account the need to" protect the environment and human health during licensing. It states as follows:

> *"59. (1) The Commission shall, in deciding whether or not to grant a mining right or mineral processing licence, take into account the need to—*
>
> *(a) conserve and protect the—*
>
> *(i) air, water, soil, flora, fauna, fish, fisheries and scenic attractions; and*
>
> *(ii) features of cultural, architectural, archaeological, historical or geological interests; and*

(b) ensure that any mining or mineral processing activity prevents any adverse socio-economic impact or harm to human health, in or on the land over which the right or license is sought."

This phrase "take into account" is a classic soft-law formulation. As established in **R v Somerset County Council, ex parte Fewings**,[48] such language creates a procedural duty to consider factors but leaves substantial discretion in how they are weighted. More explicitly, in **Re Findlay[49]**, Lord Scarman held that a duty to take something into account is not the same as a duty to give it any particular weight. This confers vast discretion on the MRC, allowing economic imperatives to legally override environmental and health concerns, as the decision is ultimately one of administrative weighing rather than compliance with a strict condition. This directly contravenes the precautionary principle enshrined in **Principle 15** of the **Rio Declaration**, which mandates that scientific uncertainty shall not be used to postpone cost-effective preventative measures where there are threats of serious or irreversible damage. A precautionary approach would require the MRC to deny a licence where such threats exist, not merely to "take it into account" as one factor to be weighed against economic considerations.

Further illustrating this textual weakness, **Section 60(1)(c)** states that:

"60. (1) The conditions subject to which a mining right is granted or renewed shall include conditions that <u>may</u> be prescribed by the Minister, by statutory instrument, <u>or as the Minister may, in a particular case, otherwise determine</u>…"

In Section 60(1) the use of the word "may" gives the Minister excessive discretionary power. This creates the danger of Inconsistent decision making , since the Minister is not obliged to impose health and safety conditions uniformly. As a result some mining licenses may carry strong protections while others may omit them enterly, depending on the Ministers personal Judgment, political priorities,or economic presures such as investments and revenue, allowing unsafe projects to proceed . Such incosistenency

[48] (1995) 3 All ER 20
[49] [1985] AC 318 (HL)

undermines legal certaint, equality before the law and effective protection of health and the environment. Also In statutory interpretation, "may" is permissive, while "shall" is mandatory—a distinction firmly established in ***Julius v Lord Bishop of Oxford.***[50] While Zambia's Occupational Health and Safety Act addresses workplace safety during operations, **Section 60(1)(c)**'s permissive language creates a critical gap at the licensing stage. The existence of general occupational safety legislation is insufficient for mining precisely because, as recognized in the **Preamble to ILO Convention No. 176**, mining presents particular hazards underground work, explosions, rock falls, dust exposure, and ventilation risks that require special provisions beyond general workplace safety laws. This is why **Article 7 of ILO C176** explicitly requires the competent authority (the licensing body) to ensure a coherent national policy on safety and health in mines is established, not merely that general workplace safety exists elsewhere in the legal framework. The Minister may prescribe health protection conditions, meaning a mining right can be legally granted without any upfront health safeguards being a prerequisite for authorization.

The Zambian provision's discretionary nature means health is not a gating requirement for mining authorization, creating a temporal gap where operations may begin under a valid license before sector-specific protections for mining's unique hazards are in place. This fundamentally deviates from the philosophy of ILO C176, which is built on the principle that safety systems must be established before mining activities commence (**Article 6**), reflecting the non-delegable duty recognized since ***Wilsons & Clyde Coal Co Ltd v English***[51]

The Act's reactive posture is codified in **Section 63**, which allows the Commission to issue notices and suspend operations for "wasteful mining practices" only after they are identified. This reflects a fundamentally flawed regulatory philosophy: addressing environmental harm only after damage has occurred, when prevention is often more effective and less costly than cure. More critically, the Act's silence on proactive financial provisioning for environmental rehabilitation represents a structural failure in implementing the polluter-pays principle. **Principle 16 of the Rio Declaration (1992)** and

[50] **1880) 5 App Cas 214 (HL**
[51] **[1938] AC 57 (HL)**.

the **OECD's Guiding Principles**[52] establish that polluters should bear the costs of environmental damage—but the MRC Act creates a "polluter-pays" system only for solvent polluters. When companies abandon sites or enter insolvency proceedings, environmental obligations become practically unenforceable, as environmental claims typically rank poorly against secured creditors. Without mandatory financial security held in trust or escrow, the state inevitably inherits cleanup liabilities.

The consequences of this regulatory gap are not hypothetical. In Canada, the problem of orphaned oil and gas wells, which eventually reached the Supreme Court in ***Orphan Well Association v Grant Thornton Ltd.***,[53] shows how a system that does not require enough financial security at the start of operations can leave the state with very large and long lasting environmental liabilities. In that case, Alberta had accumulated thousands of inactive and abandoned wells, some of them left unattended for many years and many companies that once operated these sites no longer existed or had gone into insolvency. The Court observed that the province was already facing very significant remediation costs and that the Orphan Well Association was struggling to manage the growing number of sites that no longer had a responsible operator. The central question was whether insolvency proceedings could in effect place creditor interests above environmental duties and the Court concluded that environmental obligations connected to the land still need to be carried out even when the company has become insolvent.

The background is even clearer in ***Redwater Energy Corporation (Re)***,[54], where a small oil company entered bankruptcy and the receiver sought to disclaim the contaminated and unproductive wells while selling only the assets that still had value. The regulator argued that the company could not simply walk away from its environmental responsibilities in this manner, but the lower courts at first accepted the position of the receivers. This created a situation where companies could enjoy the benefits of extraction during profitable periods and then, once the assets declined, leave the cleanup costs entirely to the public. The dispute eventually fed into the reasoning of the Supreme Court,

[52] C(72)128 (1972)
[53] 2019 SCC 5
[54] 2016 ABQB 278

although by that point Alberta had already felt the practical effect of a framework that allowed operators to depart while the environmental harm remained.

These cases demonstrate that relying on reactive enforcement and liability after the event does not protect the public interest when the regulated entity may simply cease to exist. Without stronger requirements for financial assurance at the begining, the state and affected communities are left with the burden of addressing contamination that persists long after the industry has moved on.

International mining practice has evolved in response to such failures. **UNEP's Financial Assurance for Mine Closure and Reclamation (2002)** and the **World Bank's Environmental, Health, and Safety Guidelines for Mining (2007)** both identify mandatory ex-ante financial security as essential to effective environmental protection in mining. The rationale is straightforward: mining's environmental impacts are foreseeable and often irreversible; financial provisioning must therefore be secured before operations commence, not contingent on the company's future solvency or goodwill.[55]

The MRC Act's failure to mandate this is not a theoretical concern for Zambia but is a legislative endorsement of risks that have already materialized. The Kabwe lead mine, operational from 1902 to 1994, exemplifies the consequences of mining without adequate financial security for closure and remediation. Kabwe is now widely regarded as one of the most polluted places in the world, with lead levels in the soil hundreds of times above internationally accepted safety standards. The costs of cleaning up the contamination depend on the method chosen. For example, a proposal to simply cap the old mine waste dump with a thin cement layer is estimated at about **US$ 35 million**.[56] By contrast, a more thorough plan—removing and replacing polluted soil in nearly all of the highly contaminated residential areas—would cost closer to **US$ 85 million**. In recognition of the scale of the problem, the World Bank has also funded a **US$ 65.6 million** project that

[55] Santiago J. Dondo, *'Financial Assurance for Mine Closure: A Regulatory Perspective'* (CSRM Occasional Paper, 2014) 1 https://www.csrm.uq.edu.au/media/docs/637/Occassional%20P%20Series-%20rtf%20-%20Santiago%20(2014).2.pdf accessed 1 October 2025

[56] Human Rights Watch, *Poisonous Profit: Lead Waste Mining and Children's Right to a Healthy Environment in Kabwe, Zambia* (5 March 2025) https://www.hrw.org/report/2025/03/05/poisonous-profit/lead-waste-mining-and-childrens-right-healthy-environment-kabwe accessed 1 October 2025.

covers Kabwe alongside other mining towns.[57] This liability has fallen entirely on the Zambian government and international donors, not on the mining operators who extracted profit for nearly a century. The absence of mandatory ex-ante financial security in the MRC Act creates the structural conditions for this tragedy to be repeated across Zambia's current and future mining operations. Without such requirements, each mining license granted represents a potential future liability for the Zambian state and its citizens.

While it could be argued that this is the very reason why the Environmental Protection Fund was established in Section 66. However, a cursory glean of the provision will reveal that this is not what it caters for. It provides as follows:

> *66. (1) There shall be an Environmental Protection Fund which shall be administered and managed by the Environmental Protection Fund Committee appointed by the Minister.*
>
> *(2) The Minister may, by statutory instrument, prescribe for the management and administration of the Fund*.
>
> *(3) There shall be paid into the Fund the amount of any cash deposit referred to in section 60(2)(b).*
>
> *"(4) Monies from the Fund may be applied —*
>
> *(a) at the expiry or termination of a licence or permit by way of refund to the holder thereof of the amount of any cash deposits referred to in section 60 that were paid by the holder, to the extent that such monies are not appropriated under paragraph (b); or*
>
> *(b) to the payment of any debt due under section 56(6) or section 62(6), to the extent that the debt is not paid by or recovered from, the person from whom it is due, and regardless of whether proceedings*

[57] World Bank, *Zambia Mining and Environmental Remediation and Improvement Project (ZMERIP)*, Project ID P154683 (IDA credit US$65.6 million) https://www.worldbank.org/en/news/factsheet/2020/12/17/zambia-mining-and-environmental-remediation-and-improvement-project accessed 1 October 2025.

have been taken against that person for an offence under this Part or for the recovery of the debt."

It is clear to see that its operative provisions are framed largely around financial administration rather than environmental remediation. The Fund is resourced primarily through cash deposits lodged by licence holders under **section 60(2)(b),** and its permitted uses are confined to refunding such deposits upon expiry of a licence or applying them towards the settlement of debts owed under the Act where a holder defaults. At no point does the section expressly provide that the Fund may be applied to rehabilitation, restoration, or mitigation of environmental harm caused by mining operations.

This is a notable omission when contrasted with international best practice, where environmental protection funds are typically structured as instruments to guarantee the financing of mine closure, post-closure monitoring, and the remediation of degraded sites. In its current form, the Zambian EPF appears to function more as a debt-settlement mechanism than as a substantive safeguard for the environment, thereby undermining its ostensible purpose of protecting ecological systems from the adverse effects of extractive activities.

In light of this, the liability and compensation provisions set out in Section 65 of the Act are rendered almost illusory in circumstances where a mining company becomes insolvent. While the provision is commendable in principle—ensuring that those who cause environmental harm are held legally accountable—its practical efficacy collapses when the polluter lacks the financial capacity to meet such obligations. Victims of environmental degradation are left with no meaningful remedy, as the judgments that affirm their rights amount to little more than declaratory pronouncements without the possibility of actual enforcement. The result is a legal framework that appears protective on paper but, in reality, offers scant redress to affected communities, thereby undermining both the polluter-pays principle and the broader objectives of environmental justice.

3.2.0 INSTITUTIONAL AND ENFORCEMENT CHALLENGES

A law is only as effective as its enforcement. Zambia's framework is severely undermined by institutional weaknesses.

3.2.1 THE MINES SAFETY DEPARTMENT (MSD)

The MSD is the key agency tasked with ensuring occupational safety. However, it has publicly admitted to being hamstrung by a lack of resources. The Director of the MSD has stated that the department lacks the capacity to conduct nationwide inspections regularly.[58] This shortage of resources means that inspections are carried out far less often than they should be, and in some cases mines continue operating for quite long periods without any real independent safety oversight at all. Over time this creates a kind of informal culture where operators assume they will not be checked, and so some safety protocols are ignored or only followed in a very superficial way because the chances of being caught are honestly quite low. In practice this weakens the entire regulatory system, since even well written rules depend on someone actually verifying compliance. It also runs directly against the standard set by ILO Convention 176, especially Article 4, which requires states to maintain an effective and functioning system of inspection and enforcement. The gap between what the Convention expects and what is happening on the ground becomes quite evident when enforcement relies mostly on hope rather than consistent monitoring.

3.2.2 OVERLAPPING MANDATES AND COORDINATION

Scholars like Davies Wambwa have identified institutional fragmentation as a key problem.[59] While the MRC Act aims to consolidate authority, mandates still overlap between the MRC, the Ministry of Mines, and ZEMA. This can lead to confusion, bureaucratic inertia, and gaps in oversight where each agency assumes the other is responsible. It is further noted that even audits required under the Environmental Protection Fund are seldom followed by on-site inspections due to these coordination and resource challenges.[60]

---

[58] Zambian Business Times (n 2)
[59]Davies Wambwa, "Environmental Protection Fund audits in Zambia: A strategy for ensuring regulatory compliance in Zambia's mining sector," Extractive Industries and Society 16 (2023): 101353, doi:10.1016/j.exis.2023.101353 https://www.researchgate.net/publication/375890454_Environmental_Protection_Fund_audits_in_Zambia_A_strategy_for_ensuring_regulatory_compliance_in_Zambia's_mining_sector accessed 19 September 2025
[60] Ibid

3.3.0 THE HUMAN RIGHTS DIMENSION: A MISSING LINK?

The MRC Act is largely silent on the human rights dimensions of mining, an area where international law has made significant strides through the UN Guiding Principles on Business and Human Rights (UNGPs). There is no requirement for mining companies to conduct human rights due diligence, that is, a process to identify, prevent, mitigate, and account for how they address their impacts on human rights.[61]This is a critical omission.

For communities displaced by mining, or for those whose water sources are threatened, the legal framework does not provide a clear pathway based on the corporate responsibility to respect human rights. The Act treats environmental harm and health risks primarily as regulatory infractions, not as potential violations of the fundamental human rights to life, health, water, and a healthy environment. This stands in stark contrast to the jurisprudence of the Inter-American Court of Human Rights, which in its Advisory Opinion OC-23/17 recognized the right to a healthy environment as a fundamental right and detailed the corresponding obligations of states to regulate, monitor, and enforce against private actors.[62]

3.4 CONCLUSION

In sum, while the MRC Act was enacted with the stated aim of modernising Zambia's mining regulation, its drafting choices, institutional weaknesses, and omissions reveal a framework that prioritises administrative convenience and economic imperatives over genuine environmental and human health protection. By relying on permissive language, reactive enforcement, and fragmented oversight, the Act risks perpetuating the very harms it purports to address. The absence of robust safeguards, particularly in relation to financial provisioning and human rights due diligence, underscores the need for a recalibration of the legal framework in line with international best practice. It is against this backdrop that the comparative insights from South Africa, to be explored in the next chapter, become instructive for charting a more coherent and rights-respecting approach.

---

[61]UN Human Rights Council, 'Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework' (21 March 2011) UN Doc A/HRC/17/31, Principle 17 https://www.ohchr.org/sites/default/files/Documents/Issues/Business/A-HRC-17-31_AEV.pdf accessed 19 September 2025

[62] IACtHR, Advisory Opinion OC-23/17 (Environment and Human Rights) (15 November 2017), para 62.

CHAPTER FOUR

THE SOUTH AFRICAN LEGAL FRAMEWORK ON ENVIRONMENTAL AND HUMAN HEALTH PROTECTION IN MINING

4.0 INTRODUCTION

Mining is economically central to South Africa yet presents persistent environmental and human-health risks, including land degradation, water contamination (notably acid mine drainage), and occupational diseases such as silicosis and occupational tuberculosis.[63] South Africa's legal architecture responds to these risks by combining constitutional environmental rights, focused occupational-health legislation, and integrated environmental regulation within mineral law.

This chapter analyses the statutory and judicial architecture for environmental and human-health protection in South African mining law, concentrating on the **Mine Health and Safety Act[64] (MHSA)** and the **Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA)**, and their interaction with the **National Environmental Management Act[65] (NEMA)**. It explores institutional arrangements (including the Mine Health & Safety Council and the Mine Health & Safety Inspectorate), enforcement mechanisms (including section 54 stoppage powers), environmental requirements (EMP/authorisation and financial provisioning), and leading case law interpreting these measures.

4.1 CONSTITUTIONAL AND POLICY FOUNDATIONS

South Africa's environmental law is firmly anchored in the Constitution. Section 24 provides that **"everyone has the right to an environment that is not harmful to their health or well-being"**, and that the state must take reasonable legislative and other measures to protect the environment. This constitutional right gives statutory instruments and judicial review teeth because legislation and administrative action in the

[63] Loretta Feris, 'Mining and the Environment: A Case Study of the Role of the Courts in Promoting Sustainable Development in South Africa' (2010) 27 *South African Journal on Human Rights* 29.
[64] Act No. 29 of 1996
[65] No. 107 of 1998

environmental and mining spheres must be read consistently with section 24 and the broader constitutional commitments to human dignity and socio-economic rights.

Beyond the Constitution, South Africa's policy instruments, notably the White Paper on Minerals and Mining Policy (1998) — and international obligations (e.g., ILO instruments on occupational safety and relevant multilateral environmental declarations) have shaped statutory design. The policy thrust for the MPRDA emphasises **state custodianship of mineral resources**, equitable access, and sustainable utilisation, while occupational health reforms culminating in the MHSA sought to transition the sector from reactive accident-based regulation to a preventative, risk-management approach.[66]

4.2 THE MINE HEALTH AND SAFETY ACT 29 OF 1996 (MHSA)

The MHSA was enacted to protect the health and safety of persons at mines and to promote a culture of prevention and continuous improvement. The Act's central objectives appear in its long title and section 1: protecting persons employed in or affected by mining operations; promoting a culture of health and safety; establishing tripartite institutions; and providing for enforcement and research. The MHSA adopts structured risk-management, mandatory reporting and monitoring, and tripartite governance as central implementation mechanisms.

Primary statutory duties. The MHSA places primary duties on employers (mine-owners and managers) to ensure, "as far as is reasonably practicable," that the mine is designed, constructed, and equipped to provide safe working conditions; to implement systems of work that are safe and without risk to health; and to ensure adequate medical surveillance and training.[67] Employees are also given duties to take reasonable care and to report hazards, reflecting the Act's shared-responsibility model.[68]

4.2.1 INSTITUTIONS UNDER THE MHSA: INSPECTORATE AND THE MHSC

Two institutions are central:

---

[66] White Paper on the Minerals and Mining Policy for South Africa (1998); ILO Convention No. 176 (Safety and Health in Mines)
https://www.gov.za/sites/default/files/gcis_document/201409/whitepaperminingmineralspolicy2.pdf
[67] Mine Health and Safety Act 29 of 1996, ss 2, 10, 12.
[68] Mine Health and Safety Act 29 of 1996 s 22 (duties of employees).

1. **Mine Health and Safety Inspectorate (MHSI) and Chief Inspector:** Inspectors appointed under the Act investigate accidents, conduct inspections, issue compliance notices and, under section 54, may issue stoppage orders where conditions endanger persons at a mine.These powers are deliberately broad so the regulator can act swiftly where imminent danger exists.
2. **Mine Health and Safety Council (MHSC):** The MHSC is a statutory tripartite advisory body (government, industry, labour) tasked with advising the Minister, formulating codes of practice, and promoting research. The MHSC institutionalises stakeholder participation and continuous evidence-based policy development.[69]

The combined effect of the Inspectorate's enforcement powers and the MHSC's normative function is a hybrid model of command-and-control enforcement backed by consultative rulemaking and research.

4.2.2 SECTION 54 STOPPAGES AND JUDICIAL SUPERVISION

Section 54 empowers inspectors to issue instructions halting operations where they have reasonable grounds to believe a condition endangers health or safety. While section 54 is a critical preventive tool, courts have increasingly reviewed its exercise for legality, rationality and proportionality. The Labour Court's 2016 decision in relation to AngloGold Ashanti (Kopanang) is instructive. The Court set aside a broad stoppage of an entire mine where the inspectors' facts showed a localized hazard affecting a small fraction of the operation; the Court emphasised that stoppages must be proportionate to the underlying risk and that inspectors must objectively establish factual bases for their instructions.

4.2.3 MEDICAL SURVEILLANCE, REPORTING AND OCCUPATIONAL DISEASE LIABILITY

The MHSA requires medical surveillance for early detection of occupational diseases and mandates reporting by employers and clinicians to the appropriate authorities. Victim remedies and class-action litigation (notably the litigation arising from silicosis and tuberculosis claims) demonstrate how statutory surveillance and administrative

[69] Section 3(1) of the Mineral Health and Safety Act No. 29 of 1996

enforcement interact with civil remedies and broader social justice agendas.[70] The MHSA's emphasis on surveillance and prevention is a direct policy response to the historical burden of mining-related disease in South Africa.

4.3.0 THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002 (MPRDA)

The MPRDA revolutionized mineral rights by declaring that mineral resources are the **common heritage of the nation**, vested in the state as custodian, to be exploited in the public interest.[71] The Act's objectives combine resource transformation (historical redress), socioeconomic development, and environmental stewardship. It therefore embeds environmental obligations in mining rights and uses licensing and conditions (SLPs and EMPs) as tools for enforcing responsible mining.

4.3.1 ENVIRONMENTAL AUTHORIZATIONS, EMPRS AND THE ONE ENVIRONMENTAL SYSTEM

Under the MPRDA, holders of prospecting or mining rights must obtain environmental authorisations and submit Environmental Management Programmes (EMPrs) or Environmental Impact Assessments in accordance with NEMA and associated regulations.[72] The 2014 reforms preferring the "One Environmental System" sought to streamline authorisations by designating the Department of Mineral Resources (DMR) as the competent authority for environmental authorisations in mining while preserving overarching NEMA principles — a move intended to reduce duplication between the DMR and the Department of Environmental Affairs (DEA) and create procedural coherence.[73]

4.3.2 FINANCIAL PROVISION FOR REHABILITATION AND THE "POLLUTER-PAYS" PRINCIPLE

A cornerstone of the MPRDA regime is **financial provisioning**: the duty on right-holders to make and maintain monetary provisions sufficient to rehabilitate affected land and

---

[70]

[71] Mineral and Petroleum Resources Development Act 28 of 2002, s 3(1)

[72] H Glazewski, *Environmental Law in South Africa* (3rd edn, LexisNexis 2013) 407–410.

[73] Government of South Africa, 'Government on rollout of "One Environmental System"' (8 December 2014) https://www.gov.za/news/media-statements/government-rollout-%E2%80%9Cone-environmental-system%E2%80%9D-08-dec-2014 accessed 5 October 2025.

maintain monitoring after closure. The MPRDA's regulations (including the Financial Provisioning Regulations) operationalise the polluter-pays principle and aim to prevent the fiscal transfer of rehabilitation obligations to the state in cases of operator insolvency or abandonment.[74] In practice these provisions have reduced the incidence of state-funded rehabilitation of recent closures, though implementation challenges (valuation methodologies; enforcement of funds; and orphaned legacy sites) persist.[75]

4.3.3 SOCIAL AND LABOUR PLANS (SLPS) AND COMMUNITY OBLIGATIONS

The MPRDA requires Social and Labour Plans as a condition for rights to operate. SLPs are legally enforceable commitments by mining companies to contribute to local employment, skills development, social infrastructure, and post-closure economic transition. The SLP mechanism aims to ensure mining yields tangible benefits for host communities and to mitigate negative social impacts including health-service deficits created by mining activity.[76]Enforcement of SLPs has been uneven: some mining companies have implemented transformative projects, while others have been criticised for failing to meet obligations, leading to community litigation and administrative sanctions in particular instances.[77]

4.4.0 KEY JUDICIAL INTERPRETATIONS AND THEIR REGULATORY SIGNIFICANCE

The South African courts have played a decisive role in interpreting the balance between economic utilisation of minerals and environmental / health protection. Below are selected authorities and their doctrinal impacts.

Section 54 of the Mine Health and Safety Act (MHSA) gives the Department of Mineral Resources (DMR) the authority to stop mining operations whenever there is a serious

---

[74] Centre for Environmental Rights, *Financial Provision Regulations for Mining, Oil and Gas in South Africa* (CER, 2022) https://cer.org.za/wp-content/uploads/2022/11/CER-Financial-Provision-Regulations-for-Mining-WEB-Final.pdf accessed 5 October 2025.

[75] ibid

[76] ALJ Gerber, 'The Enforceability of Social and Labour Plans in the South African Mining Industry' (2017) University of Pretoria http://hdl.handle.net/2263/65669 accessed 5 October 2025.

[77] Mining Affected Communities United in Action and Women Affected by Mining United in Action, 'New Report Alleges that Mining Corporations Failed to Effectively Implement Social and Labour Plans Despite Delivery Claims' (Business & Human Rights Resource Centre, 21 September 2022) https://www.business-humanrights.org/pt/latest-news/south-africa-new-report-alleges-that-mining-corporations-failed-to-effectively-implement-slps-despite-delivery-claims/ accessed 5 October 2025.

safety risk. However, the way this power has been used has not gone unchallenged, and the courts have repeatedly weighed in to ensure that it is applied fairly and sensibly. In ***AngloGold Ashanti Ltd v Minister of Minerals and Energy***[78], the DMR issued a notice halting all activity at the Kopanang mine after a fatal accident. AngloGold Ashanti argued that the notice was far too sweeping, given that the danger was confined to a single level of the mine. The High Court agreed, ruling that shutting down the entire operation was disproportionate. This case made clear that Section 54 notices must be carefully targeted to the risks identified; regulators cannot use them as a blunt instrument.

The importance of fairness and consultation was further reinforced in ***AngloGold Ashanti Ltd v Kleynhans***[79]. Here, the mine operator challenged a Section 54 notice that demanded a suspension of operations due to alleged safety violations. The court found that the DMR had not provided adequate detail about the specific risks and had failed to engage meaningfully with the company. The judgment stressed that issuing a Section 54 notice is not simply a bureaucratic formality; it is a serious intervention that must be justified, transparent, and fair. These two cases together underscore a critical principle: while the DMR is empowered to act decisively to protect workers, it must also exercise its powers judiciously and proportionately.

The courts have also clarified the reach of the MHSA itself. In ***Bert's Bricks (Pty) Ltd v Minister of Mineral Resources***[80], a Section 54 notice was issued to a brick-making facility. The company argued that the facility did not meet the Act's definition of a "mine," and the court agreed. The ruling highlighted that regulators cannot simply assume that Section 54 applies in every instance; their actions must be rooted firmly in the statutory framework. Administrative powers must be exercised with precision and respect for the legal boundaries set by the MHSA.

Questions of employer responsibility and occupational health are equally prominent in South African mining law. In ***AngloGold Ashanti Ltd v Mbonambi***[81], two employees who

[78] [2017] ZAGPPHC 686
[79] [2022] ZAGPPHC 347
[80] [2010] ZAGPJHC 83
[81] [2016] ZALCJHB 522

had contracted silicosis were dismissed. The Labour Court found these dismissals unfair, emphasizing that employers are obliged to provide a safe working environment and take proactive measures to prevent disease. This case illustrates that Section 54 is only one part of a broader system of worker protection, and that companies have an ongoing duty of care that extends beyond merely avoiding accidents.

Finally, the Constitutional Court in ***Mankayi v AngloGold Ashanti Ltd***[82] clarified the interaction between statutory compensation and common law claims. The court confirmed that workers are not limited to the benefits provided under the Compensation for Occupational Injuries and Diseases Act (COIDA); they may also bring claims in negligence for harm suffered. This decision reinforces the protective architecture around mineworkers, ensuring that regulatory powers like Section 54 work in tandem with legal remedies to safeguard health and safety.

These judgments demonstrate that the enforcement of safety standards in South African mines is carefully monitored by the courts. Section 54 gives the DMR necessary authority to prevent harm, but that authority is tempered by requirements of proportionality, specificity, and procedural fairness. At the same time, the courts have reinforced the obligations of employers to actively protect workers and clarified the limits of regulatory power. Far from being a mere technicality, Section 54 operates within a broader legal ecosystem that balances mine safety, operational continuity, and workers' rights.

4.5.0 CROSS-CUTTING CHALLENGES AND REGULATORY LESSONS

South Africa's legal framework governing mining and environmental protection is widely regarded as advanced within the African context, offering a relatively sophisticated balance between economic development, environmental stewardship, and worker protection. The Mine Health and Safety Act (MHSA), the Minerals and Petroleum Resources Development Act (MPRDA), and the associated regulations, such as the Financial Provisioning Regulations, demonstrate a deliberate attempt to integrate occupational safety, environmental responsibility, and community benefit. These features make the South African experience a valuable source of lessons for Zambia.

[82] [2011] ZACC 3

Nevertheless, even within this comparatively developed framework, certain challenges persist—challenges that do not undermine the overall effectiveness of the system but highlight areas requiring vigilance. One such issue relates to legacy contamination and long-term liabilities. Regions with historical mining activities, particularly the Witwatersrand, continue to contend with acid mine drainage and heavy metal contamination. These issues impose multi-decadal liabilities that complicate rehabilitation efforts, despite financial provisioning mechanisms designed to ensure that mining operators bear the costs of remediation. The experience underscores the importance of robust planning for post-closure monitoring and the careful allocation of responsibility for historic pollution, lessons that Zambia could proactively integrate into its regulatory and financial frameworks.[83]

Another lesson concerns the capacity and consistency of the regulatory inspectorate. The MHSA relies on a competent, well-resourced inspectorate to monitor compliance effectively. While South Africa has established strong enforcement mechanisms, resource constraints and regional variations have occasionally led to inconsistent application, prompting litigation to correct administrative shortcomings. This experience illustrates for Zambia the critical importance of building and sustaining institutional capacity to ensure that health and safety regulations are applied uniformly and predictably across the mining sector.[84]

The 2014 introduction of the "One Environmental System" in South Africa provides a further instructive example. By consolidating environmental authorisations within the mining licensing framework, South Africa has reduced duplication and created procedural coherence, a feature particularly relevant for jurisdictions like Zambia seeking to streamline approvals without compromising oversight. At the same time, the system has prompted reflections on regulatory independence, as the same department is responsible for both promoting and regulating mining. South Africa's approach highlights the need for

[83] Centre for Environmental Rights, *Financial Provision Regulations for Mining, Oil and Gas in South Africa* (CER, 2022) https://cer.org.za/wp-content/uploads/2022/11/CER-Financial-Provision-Regulations-for-Mining-WEB-Final.pdf accessed 5 October 2025.
[84] Mining Weekly, 'Moving from Risky to Risk-Free Mines' (27 January 2023) https://www.miningweekly.com/article/moving-from-risky-to-risk-free-mines-2023-01-27 accessed 5 October 2025.

clear separation of promotional and regulatory roles, coupled with transparency and strong oversight—measures that Zambia could adopt to safeguard against regulatory capture while benefiting from streamlined procedures.[85]

Lastly, the South African framework really does show the value of having a more organised form of community participation, especially through Social and Labour Plans, or SLPs. These plans, which are built into the MPRDA, are meant to make sure that communities actually recieve some real and practical benefits from mining and not just the negative impacts that come with it. The intention is to promote distributive justice and longer term social change, although in practive the results are not always consistent and sometimes the implementation feels a bit uneven. How well SLPs work depends a lot on the strength of monitoring at the municipal level, and when the oversight is fairly robust you can see communities gaining something, but when it is weaker the plans tend to stay mostly on papper and the benefits do not really show up on the ground.

For Zambia, the lesson here is that legal requirements alone are not quite enough, and you still need proper follow up, consistent monitaring, and accountable institutions. Otherwise the idea of community benefit risks becoming something that is talked about but not fully realised, even where the framework looks solid at first sight.[86]

4.6.0 CONCLUSION

South Africa's legislative framework offers a comparatively advanced model for integrating occupational health, safety, and environmental protection into mining governance. Its strengths include constitutional backing, tripartite governance structures, mandatory environmental authorisations and financial provisioning, and active judicial oversight that upholds procedural fairness and environmental rights. Practical challenges

[85] Government of South Africa, 'Government on rollout of "One Environmental System"' (8 December 2014) https://www.gov.za/news/media-statements/government-rollout-%E2%80%9Cone-environmental-system%E2%80%9D-08-dec-2014 accessed 5 October 2025.

[86] South African Human Rights Commission and Centre for Environmental Rights, *Ensuring Mining Benefits Communities* (CER, 2020) https://macua.org.za/wp-content/uploads/2025/08/SAHRC-and-the-MPRDA_250805_141350.pdf accessed 5 October 2025.

remain, however, including legacy contamination, limited inspectorate capacity, the risk of regulatory capture, and gaps in enforcing community benefits.

For Zambia, which faces significant post-mining health and environmental legacies, South Africa's experience provides valuable lessons: embed environmental obligations within mining law, ensure robust rehabilitation financing, institutionalise stakeholder participation in health and safety governance, and secure meaningful community engagement at the rights-granting stage. Together, these measures could help align Zambia's mining sector with sustainable development and human-health protection objectives.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

This dissertation has undertaken a critical examination of Zambia's legal framework on environmental and human health protection in mining operations, with particular focus on the Minerals Regulation Commission Act No. 14 of 2024. Using doctrinal analysis together with international comparison and the South African example, the study assessed whether the current system actually offers adequate protection to communities and surrounding ecosystems. This concluding chapter draws together the main findings and sets out recommendations for improving the regulatory approach.

While the Act appears fairly comprehensive on paper, its operation in practice is less convincing. Enforcement is often inconsistent, and several accountability provisions are either unclear or not applied very effectively, so companies can still cause environmental harm with few real consequences. This underminds the overall purpose of the framework and suggests that stronger institutional capacity and clearer guidance will be needed if the Act is to function properly in the long term.

5.1.0 SUMMARY OF CHAPTER FINDINGS

5.1.1 CHAPTER ONE

Chapter One set out the context for the study by outlining the environmental and health challenges that continue to affect Zambia's mining sector. The chapter drew attention to the fact that in the first half of 2023 alone, there were 12 fatal accidents and 14 serious incidents recorded in various mining operations. These occurrences highlighted weaknesses in oversight, particularly the limited capacity of the Mines Safety Department, which has openly acknowledged that it cannot conduct regular inspections because it lacks adequate funding, personnel and equipment. As a result, even though legal provisions exist, their enforcement is inconsistent and, in some areas, practically absent. From this, the chapter formulated the central research problem. The Minerals Regulation Commission Act is framed as a statute intended to protect health and the environment, but the practical gaps in enforcement, the absence of reliable financial safeguards for

environmental rehabilitation, weak corporate accountability and limited community participation raise concerns about its effectiveness.

5.1.2 CHAPTER TWO

Chapter Two then turned to the international legal framework that guides environmental governance. It tracked the development of major principles in international environmental law from the 1972 Stockholm Conference to the 1992 Rio Declaration. Principles such as precaution, polluter pays and public participation were shown to have become central features of modern environmental regulation.

The chapter reviewed several multilateral environmental agreements that have direct relevance to mining activities, such as the Basel Convention on hazardous waste, the Stockholm Convention on persistent organic pollutants and the Minamata Convention on mercury. It also examined ILO Convention 176, which remains the most detailed international instrument on mine safety and health. The Convention requires member states to adopt preventive approaches, create opportunities for worker participation and maintain effective inspection systems. The chapter also considered the UN Guiding Principles on Business and Human Rights, which have influenced global expectations on corporate conduct. Finally, it discussed the increasing recognition of the right to a healthy environment, as reflected in UN Human Rights Council Resolution 48 of 13 and the Inter American Court's advisory opinions.

These developments demonstrate that environmental protection is increasingly understood not only as a regulatory or technical matter but also as part of states' broader human rights obligations. As the chapter noted, if Zambia applied the polluter pays principle more consistently, the environmental liabilities in Kabwe would have been borne by the mining companies responsible, rather than the government and development partners.

5.1.3 CHAPTER THREE

In Chapter Three, these international norms were used as an analytical framework for assessing the Minerals Regulation Commission Act. A close reading of the Act revealed several weaknesses. Section 59(1), for example, instructs the Commission only to take environmental and health considerations into account when processing mining right applications. Case law such as R v Somerset County Council ex parte Fewings and Re Findlay shows that this type of wording creates a duty to consider certain factors but does not oblige the decision maker to act in a particular way. This means economic considerations may still outweigh environmental or health risks. Section 60(1)(c) contains a similar issue by making the prescription of health safeguard conditions optional rather than compulsory. This is not consistent with the preventive orientation of ILO Convention 176, which expects safety measures to be in place before mining begins.

The chapter also identified that the Act does not contain any requirement for financial provisioning for environmental rehabilitation. This results in situations such as the Kabwe lead mine, where rehabilitation costs estimated between thirty five and eighty five million dollars have fallen on government and donors. The Environmental Protection Fund, which is provided for under Section 66, is also limited in scope because it has no express mandate to support environmental restoration. Additional institutional challenges were highlighted, including the limited inspection capacity of the Mines Safety Department and overlapping functions among the Minerals Regulation Commission, the Ministry of Mines and ZEMA. The chapter further noted that the Act makes no reference to human rights obligations or to the importance of corporate human rights due diligence.

5.1.4 CHAPTER FOUR

.Chapter Four examined South Africa's mining regulatory framework. The analysis revealed constitutional anchoring of environmental protection in Section 24, guaranteeing everyone the right to an environment not harmful to health or wellbeing. The Mine Health and Safety Act establishes comprehensive obligations on employers to ensure safe working conditions as far as reasonably practicable, tripartite governance through the Mine Health and Safety Council, and robust enforcement powers including Section 54 stoppage orders. Judicial oversight in cases such as AngloGold Ashanti v Minister of

Minerals and Energy ensures enforcement powers are exercised proportionately. The MPRDA's financial provisioning requirements operationalize the polluter-pays principle by requiring mining operators to maintain monetary provisions sufficient to rehabilitate affected land and maintain post-closure monitoring. Social and Labour Plans create legally enforceable community benefit requirements. While challenges persist including legacy contamination from acid mine drainage, resource constraints affecting inspectorate consistency, and uneven SLP enforcement, South Africa's framework demonstrates that sophisticated, rights-respecting mining regulation is achievable within African contexts. For example if Zambia copied South Africa’s rule, no mine could start operations until it deposited enough money to fix any environmental damage later

5.2.0 OVERARCHING CONCLUSIONS

The discussion across the earlier chapters shows that the Minerals Regulation Commission Act, in its current form, does not really keep pace with the way international environmental and human rights law has developed. The Act certainly attempts to regulate mining and to give some form of protection to health and the environment, but when looked at closely it leaves a number of important gaps. International instruments like the Rio Declaration, ILO Convention 176 and the UN Guiding Principles on Business and Human Rights have, over time, built a fairly clear picture of what modern resource regulation should look like. They emphasise early risk detection, preventive action, and stronger accountability systems. The Act, however, tends to fall back on older ideas that put quite a bit of faith in administrative discretion and economic considerations.

A recurring issue is the way several provisions are drafted. Sections such as 59(1) only ask the Commission to take certain environmental or health factors into account. As was explained earlier, case law like **R v Somerset County Council ex parte Fewings** shows that this kind of wording creates only a duty to consider, not a duty to act. The decision maker can note the environmental risks and still proceed with approval so long as they have “considered” them. Section 60(1)(c) uses similar language by stating that the Minister may prescribe health safeguards, which means these safeguards are not required before a mining right is granted. This is different from the approach taken in ILO

Convention 176, which expects safety systems to be firmly in place before mining begins. The Act's reliance on permissive language therefore weakens the preventative intent one would normally expect in mining regulation.

Another major concern is the total absence of a financial provisioning requirement. The Act does not oblige companies to set aside money for rehabilitation or mine closure before operations start. Without this, the State ends up carrying the financial burden when environmental harm occurs. The situation in Kabwe, where the costs of addressing lead contamination have been left to government and donors, shows how this plays out in real life. This is exactly the kind of outcome the polluter pays principle is supposed to avoid. The Environmental Protection Fund under Section 66 does not solve the problem since it was designed mainly to address debts owed to government agencies and has no clear mandate for environmental repair. In practice, this leaves a considerable gap between what international law expects and what the domestic law actually requires.

The institutional picture adds further difficulty. The Mines Safety Department has openly stated that it does not have enough resources to carry out regular inspections. This means even the basic safeguards that exist in the Act cannot be properly enforced. The recent Sino Metals tailings incident at the Kafue River is a reminder of what can happen when inspection systems rely on resources that are simply not available. In a system like this, much depends on the capacity of the regulator, yet that capacity is stretched very thin. The result is a regulatory framework that appears comprehensive on paper but is much weaker in practice.

The comparison with South Africa gives a sense of what is possible in the region. South Africa's Constitution includes an environmental right that strengthens the foundation for regulation. Its Mine Health and Safety Act takes a clear preventative approach and sets out practical duties for employers. It also has cooperative structures like the Mine Health and Safety Council which bring together the different actors in the mining sector. Enforcement powers such as the authority to stop operations in unsafe conditions are also supported by judicial oversight. Cases like AngloGold Ashanti show how courts can intervene to ensure that these powers are used both lawfully and reasonably. South

Africa's financial provisioning rules under the MPRDA also provide a working example of how the polluter pays principle can be applied in a concrete way. Mining companies must maintain funds for rehabilitation, and this requirement forms part of the licensing process. Social and Labour Plans further place duties on companies to contribute to local development. Although South Africa still deals with issues such as acid mine drainage and inconsistent enforcement in some cases, the overall arrangement demonstrates that it is possible to create a modern and quite detailed regulatory system in an African setting.

One area where Zambia's Act is particularly behind is in the treatment of human rights concerns. International practice increasingly recognises the way environmental harm and human rights are linked. The UN Guiding Principles and the advisory opinions of the Inter American Court both underline the need for companies to review and address the human rights impacts of their operations. These include rights to water, health and a clean environment. They also emphasise the importance of obtaining free, prior and informed consent from communities likely to be affected by mining activities. The Minerals Regulation Commission Act does not contain provisions requiring any form of human rights due diligence. It also does not speak directly to community rights or participation beyond the requirements already covered in environmental legislation. This places the Act somewhat behind the trend in international practice, where human rights considerations increasingly form part of environmental governance.

Overall, the analysis suggests that while the Act has an important role in Zambia's mining sector, it would benefit from substantive revision in order to align more closely with modern standards. Strengthening the Act in the areas identified would give it greater coherence and also provide clearer expectations for both regulators and mining companies. It would also help build a more reliable foundation for sustainable development in mining areas, and lessen the likelihood that environmental or health costs fall on communities or future governments.

5.3.0 RECOMMENDATIONS

5.3.1 STRENGTHEN MANDATORY OBLIGATIONS IN MINING LICENSING

One of the biggest issues with the current Minerals Regulation Commission Act is that it relies too heavily on soft language. Words like “may” and “where appropriate” are scattered across provisions that ought to be firm and direct. The problem with this type of wording is that it creates too much room for inconsistent decisions. In practice, some applications are approved even where the environmental risks are quite obvious, simply because the law does not force the Commission to refuse them.

Section 59(1) is the clearest example. It should be amended so that the Commission must refuse a mining licence if the Environmental Impact Assessment shows serious or irreversible harm, or a real threat to public health, that cannot be reduced to acceptable levels. Leaving this to the Commission’s discretion, when people’s lives and the environment are at stake, is no longer defensible. This would bring Zambia closer to the precautionary approach that the Rio Declaration talks about. It is better to act early than to wait until damage has already occurred. Scientific uncertainty should not become an excuse to delay protective measures.

Section 60(1)(c) should also be changed so that the Minister is required to set compulsory health protection conditions for all mining operations. At the moment it reads as though these conditions are optional. Yet it is more than evident that mining creates predictable and serious occupational risks. The law should insist on measures like proper underground safety standards, ventilation requirements, dust management, emergency drills, and basic protective clothing. These are the sorts of measures already expected under ILO Convention 176. They should not be left to ministerial preference or delayed until after the licence is issued. If a mining company cannot meet these conditions, then it should not be operating.

5.3.2 ESTABLISH MANDATORY FINANCIAL PROVISIONING REQUIREMENTS

Another major gap in Zambia's current framework is the lack of real and enforceable financial guarantees for mine closure and rehabilitation. The Environmental Protection Fund, in its current form, does not function as a true safety net. It often ends up under resourced and unable to meet the actual costs of cleaning up old mine sites. As a result, many communities continue to live near polluted land and water, long after the companies have left.

South Africa's framework under the MPRDA shows a more realistic approach. Mining companies are required to set aside funds in advance to cover rehabilitation and closure costs. These funds cannot be touched during operations and are protected even if the company later collapses. Zambia should incorporate something along these lines into the Minerals Regulation Commission Act. Mining companies must provide financial guarantees as a condition of licensing, and these guarantees should be revisited every few years as risks change.

The Environmental Protection Fund should be rewritten so that it clearly allows money to be used for environmental clean up, long term monitoring, community health responses, and stabilisation of abandoned sites. It also needs a clearer structure so that it is not just symbolic. There is no real point in having a fund that cannot actually meet the scale of damage caused by mining.

5.3.3 IMPLEMENT HUMAN RIGHTS DUE DILIGENCE REQUIREMENTS

Mining is no longer seen in the narrow sense of digging minerals out of the ground. Around the world, it is recognised as an activity that can affect water, health, culture, food security and basic human dignity. Yet Zambia's legislation does not fully reflect this shift. The UN Guiding Principles on Business and Human Rights expect companies to identify and address human rights risks before harm occurs, but Zambia has not made this a binding requirement for mining companies.

The Minerals Regulation Commission Act should include a full human rights due diligence process. Before any operations begin, companies should have to assess how their activities might affect water access, people's health, the integrity of the environment and any other rights that could reasonably be impacted. These assessments should not be private documents but rather should be shared openly with the affected communities and explained in plain language.

Human rights due diligence also means monitoring impacts after operations begin. Mining risks do not stay the same. Companies should have to update their assessments and publish the results.

Free, prior and informed consent must also be taken seriously. It is not something that should be rushed or reduced to a single meeting, whose effectiveness is made even more exvlusive owing to the fact that it restricts that such a meeting should be held in English. Communities need full information in their own languages, and they need time to consider the implications. In many cases, they may need independent experts to help them understand the possible consequences of the project. When consent is not properly obtained, conflict is almost guaranteed. This slows down development and damages social trust, so proper FPIC processes benefit everyone, including the investors themselves.

5.3.4 STRENGTHEN INSTITUTIONAL CAPACITY AND ENFORCEMENT

Although detailed laws can be drafted, their impact depends very closely on whether the institutions responsible for enforcing them are able to function effectively. In practice, the Mines Safety Department has continued to face a number of long standing constraints. These include low staffing levels, older inspection equipment and funding that is often not sufficient for the scale of work required. As a result, the Department is not always able to carry out inspections as regularly as the law seems to assume, particularly in remote regions where travel is more demanding. In some situations, inspectors have even had to give prior notice of visits because they do not have the transport or resources needed to conduct unannounced inspections. This reduces the preventive value of the system

and, at times, limits the Department's ability to detect non compliance before it becomes more serious.

These constraints suggest that more direct and stable support from government is necessary. The Department would benefit from predictable funding, additional inspectors with technical backgrounds in areas such as environmental science or occupational health, and upgrading of inspection tools. The adoption of digital monitoring systems could also provide a useful supplement to physical inspections, even if they cannot fully replace them, by allowing for more frequent data collection and early identification of certain risks.

South Africa offers a helpful point of comparison. Its Mine Health and Safety Council provides a forum where government, industry and workers can jointly develop safety standards and exchange information. A similar structure in Zambia could help narrow the gap between policy makers and mining personnel, and create a more coordinated approach to safety oversight, though its exact design would need to reflect local conditions.

Finally, enforcement depends in part on whether individuals feel able to report unsafe or unlawful practices. Many workers and community members are reluctant to come forward because they fear job related consequences or tensions within their communities. Strengthening whistleblower protections would therefore form an important part of a more credible enforcement framework. This would include clearer confidentiality guarantees and legal protections against retaliation. Without these measures, it is likely that a significant portion of violations would continue to go unreported.

5.3.5 ADDRESS COORDINATION CHALLENGES

Finally, one of the most frustrating problems in Zambia's mining governance is the lack of clear coordination between different institutions. The Minerals Regulation Commission, the Ministry of Mines and ZEMA often have overlapping responsibilities. Scholars like Davies Wambwa have pointed out that this creates delays, confusion and sometimes

even contradictory decisions. When institutions do not know who is responsible for what, enforcement becomes slow and occasionally ineffective.

The law should be amended so that each institution has a clearly defined role. The Commission could focus on technical and mining related assessments. ZEMA could handle all environmental reviews, monitoring and compliance matters. The Ministry could then play a broader oversight and policy role. Clear separation would reduce unnecessary bureaucracy and help ensure that mining operations are assessed thoroughly but without the procedural bottlenecks that currently undermine the system.

BIBLIOGRAPHY

LEGISLATION

Zambia

Minerals Regulation Commission Act No. 14 of 2024

South Africa

Mine Health and Safety Act No. 29 of 1996

Mineral and Petroleum Resources Development Act No. 28 of 2002

National Environmental Management Act No. 107 of 1998

International Instruments

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (adopted 22 March 1989, entered into force 5 May 1992) 1673 UNTS 126

ILO Safety and Health in Mines Convention (No. 176) (adopted 22 June 1995, entered into force 5 June 1998) 1966 UNTS 313

Minamata Convention on Mercury (adopted 10 October 2013, entered into force 16 August 2017) 55 ILM 582

OECD Guiding Principles on the Polluter-Pays Principle C(72)128 (1972)

Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26 (Vol. I), 31 ILM 874 (1992)

Stockholm Convention on Persistent Organic Pollutants (adopted 22 May 2001, entered into force 17 May 2004) 2256 UNTS 119

UN Human Rights Council Resolution 48/13, 'The human right to a clean, healthy and sustainable environment' (A/HRC/RES/48/13) (8 October 2021)

UN Human Rights Council, 'Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework' (21 March 2011) UN Doc A/HRC/17/31

CASES

South Africa

AngloGold Ashanti Ltd v Kleynhans [2022] ZAGPPHC 347

AngloGold Ashanti Ltd v Mbonambi [2016] ZALCJHB 522

AngloGold Ashanti Ltd v Minister of Minerals and Energy [2017] ZAGPPHC 686

Bert's Bricks (Pty) Ltd v Minister of Mineral Resources [2010] ZAGPJHC 83

Mankayi v AngloGold Ashanti Ltd [2011] ZACC 3

Canada

Orphan Well Association v Grant Thornton Ltd 2019 SCC 5

Redwater Energy Corporation (Re) 2016 ABQB 278

United Kingdom

Julius v Lord Bishop of Oxford (1880) 5 App Cas 214 (HL)

R v Somerset County Council, ex parte Fewings (1995) 3 All ER 20

Re Findlay [1985] AC 318 (HL)

Wilsons & Clyde Coal Co Ltd v English [1938] AC 57 (HL)

International Courts

Pulp Mills on the River Uruguay (Argentina v Uruguay) [2010] ICJ Rep 14

Inter-American Court of Human Rights, Advisory Opinion OC-23/17 (Environment and Human Rights) (15 November 2017)

Inter-American Court of Human Rights, Advisory Opinion OC-32 (Climate Emergency and Human Rights) (3 July 2025)

BOOKS

Boyle A and Redgwell C, *International Law and the Environment* (4th edn, Oxford University Press 2021)

Campbell B (ed), *Regulating Mining in Africa: For whose benefit?* (Nordic Africa Institute Discussion Paper No. 26)

Glazewski H, *Environmental Law in South Africa* (3rd edn, LexisNexis 2013)

Sands P and Peel J, *Principles of International Environmental Law* (4th edn, Cambridge University Press 2018)

JOURNAL ARTICLES

Coulson N, 'Worker Health and Safety Representatives on South African Mines: A Compassionate Voice in the Face of Employer Dominance and Health Complexity' (2020) 7(1) The Extractive Industries and Society 1

Feris L, 'Mining and the Environment: A Case Study of the Role of the Courts in Promoting Sustainable Development in South Africa' (2010) 27 South African Journal on Human Rights 29

Franks DM, Boger DV, Côte CM and Mulligan DR, 'Sustainable Development Principles for the Disposal of Mining and Mineral Processing Wastes' (2011) 29 Resources Policy 114

Igbayiloye OB and Bradlow DD, 'An Assessment of the Regulatory Legal and Institutional Framework of the Mining Industry in South Africa and Kenya for Effective Human Rights Protection' (2021) 21(1) African Human Rights Law Journal

Rajamani L, 'The Contribution of the Rio Declaration to the Development of International Environmental Law' (2000) 49 International and Comparative Law Quarterly 850

Wambwa D, 'Environmental Protection Fund audits in Zambia: A strategy for ensuring regulatory compliance in Zambia's mining sector' (2023) 16 Extractive Industries and Society 101353

THESES AND DISSERTATIONS

Gerber ALJ, 'The Enforceability of Social and Labour Plans in the South African Mining Industry' (PhD thesis, University of Pretoria 2017)

Kangwa PK, 'An Assessment of the Economic, Social and Environmental Impacts of the Mining Industry – A Case Study of Copper Mining in Zambia' (MSc thesis, Lund University)

Kasapatu PS, 'An Evaluation of the Zambian Regulatory Framework Governing Water Pollution Caused by Copper Mining' (2013)

Mukuka F, 'Establishing a Mining Environmental Monitoring and Compliance Mechanism for Local Authorities in Zambia: A Case Study of North-Western Province' (University of Zambia 2020)

Negi R, 'The Micro Politics of Mining and Development in Zambia: Insights from the Northwestern Province' (2011) 12(2) African Studies Quarterly

REPORTS AND POLICY DOCUMENTS

Ashton PJ, Love D, Mahachi H and Dirks PHGM, *An Overview of the Impact of Mining and Mineral Processing Operations on Water Resources and Water Quality in the Zambezi, Limpopo and Olifants Catchments in Southern Africa* (CSIR Environmentek 2001)

Centre for Environmental Rights, *Financial Provision Regulations for Mining, Oil and Gas in South Africa* (CER 2022)

Dondo SJ, 'Financial Assurance for Mine Closure: A Regulatory Perspective' (CSRM Occasional Paper 2014)

Extractive Industries Transparency Initiative, *The EITI Standard* (2023) https://eiti.org/eiti-standard

Human Rights Watch, *Poisonous Profit: Lead Waste Mining and Children's Right to a Healthy Environment in Kabwe, Zambia* (5 March 2025)

Mining Affected Communities United in Action and Women Affected by Mining United in Action, 'New Report Alleges that Mining Corporations Failed to Effectively Implement

Social and Labour Plans Despite Delivery Claims' (Business & Human Rights Resource Centre, 21 September 2022)

South African Human Rights Commission and Centre for Environmental Rights, *Ensuring Mining Benefits Communities* (CER 2020)

UNEP, *Financial Assurance for Mine Closure and Reclamation* (2002)

White Paper on the Minerals and Mining Policy for South Africa (1998)

World Bank, *Environmental, Health, and Safety Guidelines for Mining* (2007)

World Bank, *Zambia Mining and Environmental Remediation and Improvement Project (ZMERIP)*, Project ID P154683

INTERNET SOURCES

Government of South Africa, 'Government on rollout of "One Environmental System"' (8 December 2014) https://www.gov.za/news/media-statements/government-rollout-one-environmental-system-08-dec-2014

IndustriALL Global Union, 'Chile finally ratifies ILO C176 on mine safety' (2024) https://www.industriall-union.org/chile-finally-ratifies-ilo-c176-on-mine-safety

International Labour Organization, 'Safety and Health in Mines Convention, 1995 (No. 176)' (NORMLEX, June 2024) https://normlex.ilo.org/dyn/nrmlx/en/f?p=NORMLEXPUB:11300:0::NO::P11300_INSTRUMENT_ID:312321

Lusaka Times, 'Government to launch independent investigation into mining pollution of Kafue and Mwambashi rivers' https://www.lusakatimes.com/2025/02/27/government-to-launch-independent-investigation-into-mining-pollution-of-kafue-and-mwambashi-rivers

Mining Weekly, 'Moving from Risky to Risk-Free Mines' (27 January 2023) https://www.miningweekly.com/article/moving-from-risky-to-risk-free-mines-2023-01-27

Office of the High Commissioner for Human Rights, 'Human Rights Council adopts four resolutions on right to development, human rights' (2021) https://www.ohchr.org/en/press-

releases/2021/10/human-rights-council-adopts-four-resolutions-right-development-human-rights

Zambia Monitor, 'Environmental group demands nationwide audit of tailings dams after Kafue River pollution' https://www.zambiamonitor.com/environmental-group-demands-nationwide-audit-of-tailings-dams-after-kafue-river-pollution

Zambian Business Times, 'Mines Safety Department lacks resources for nationwide inspections, director admits' https://zambianbusinesstimes.com/mines-safety-department-lacks-resources-for-nationwide-inspections-director-admit

UNIVERSITY of LUSAKA

SCHOOL OF LAW

L400B / Dissertation II – DIRECTED RESEARCH (OBLIGATORY ESSAY)

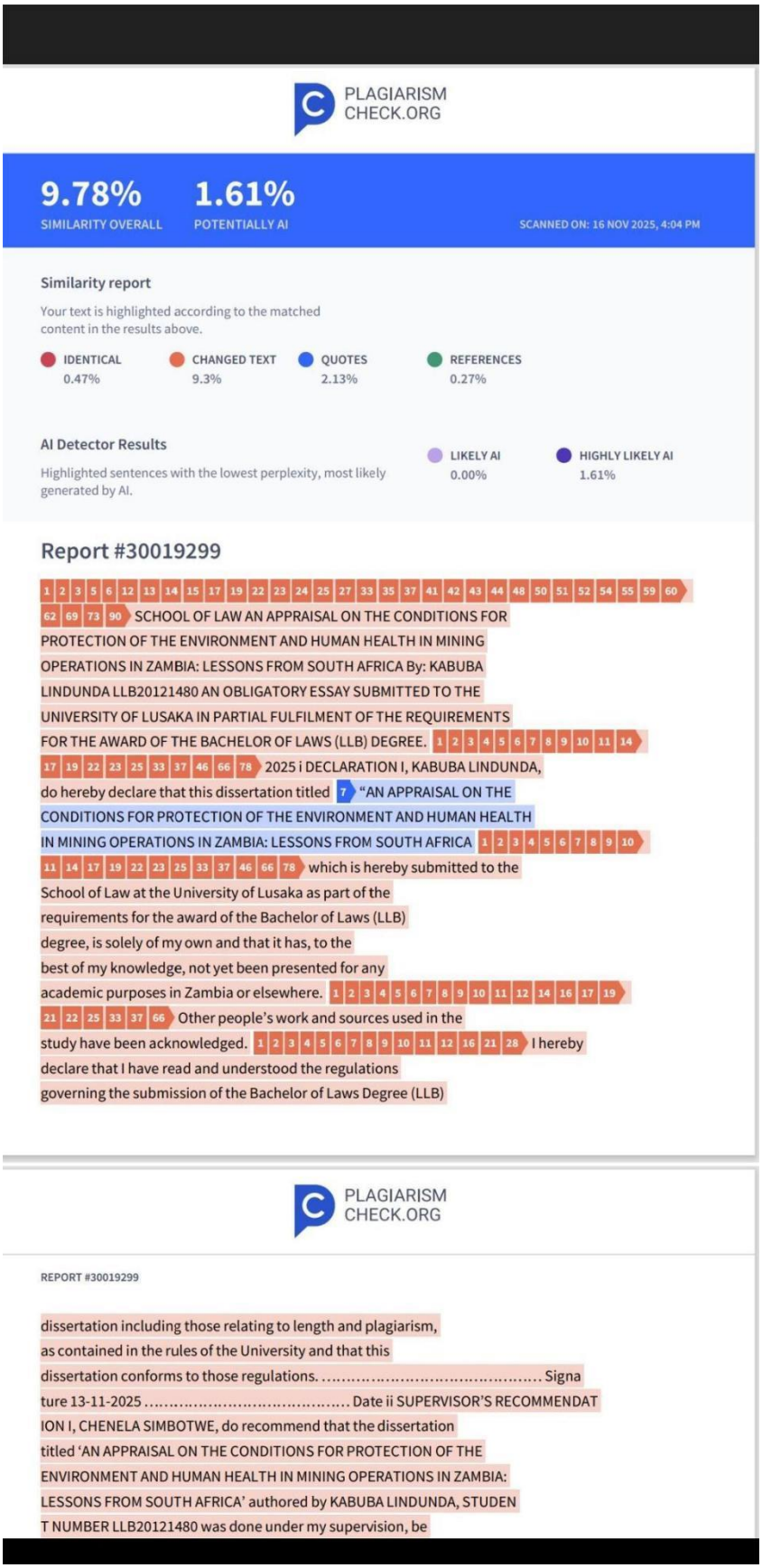
RESEARCH CLEARANCE FORM

NAME: KABUBA LINDUNDA STUDENT NUMBER: LLB20121480

SUPERVISOR: MR C SIMBOTWE TOPIC: AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA:LESSONS FROM SOUTH AFRICA.

Stage	Supervisor's Comments	Supervisor's Signature & Date	Student's Signature & Date
Research Proposal	Make corrections to the SOP, objectives and research questions.	C.M 11.08.25	11.08.25
Chapter 1 – Introduction	Make further corrections and proceed to chapter 2	C.M 19.08.25	19.08.25
Chapter 2 –	Make corrections and proceed to the next chapter	C.M 25.08.25	25.08.25
Chapter 3 –	Make corrections and proceed to the next chapter	C.M 23.09.25	22.09.25
Chapter 4 –	Make corrections and proceed	C.M 30.10.25	06.10.25
Chapter 5 – Conclusions & Recommendations	Proceed	C.M 16.10.25	16.10.25
Abstract, Table of	Good	C.M 03.11.25	03.11.25

Contents, Bibliography and Appendices			
First Draft	Good	C.M 04.11.25	04.11.25
Second Draft	Good	C.M 05.11.25	05.11.25
Final Draft	Proceed to submit	C.M 12.11.25	13.11.25



PLAGIARISM CHECK.ORG

9.78% SIMILARITY OVERALL

1.61% POTENTIALLY AI

SCANNED ON: 16 NOV 2025, 4:04 PM

Similarity report

Your text is highlighted according to the matched content in the results above.

IDENTICAL 0.47%

CHANGED TEXT 9.3%

QUOTES 2.13%

REFERENCES 0.27%

AI Detector Results

Highlighted sentences with the lowest perplexity, most likely generated by AI.

LIKELY AI 0.00%

HIGHLY LIKELY AI 1.61%

Report #30019299

SCHOOL OF LAW AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA By: KABUBA LINDUNDA LLB20121480 AN OBLIGATORY ESSAY SUBMITTED TO THE UNIVERSITY OF LUSAKA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF LAWS (LLB) DEGREE. 2025 i DECLARATION I, KABUBA LINDUNDA, do hereby declare that this dissertation titled "AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA which is hereby submitted to the School of Law at the University of Lusaka as part of the requirements for the award of the Bachelor of Laws (LLB) degree, is solely of my own and that it has, to the best of my knowledge, not yet been presented for any academic purposes in Zambia or elsewhere. Other people's work and sources used in the study have been acknowledged. I hereby declare that I have read and understood the regulations governing the submission of the Bachelor of Laws Degree (LLB)

PLAGIARISM CHECK.ORG

REPORT #30019299

dissertation including those relating to length and plagiarism, as contained in the rules of the University and that this dissertation conforms to those regulations. ..... Signature 13-11-2025 ..... Date ii SUPERVISOR'S RECOMMENDATION I, CHENELA SIMBOTWE, do recommend that the dissertation titled 'AN APPRAISAL ON THE CONDITIONS FOR PROTECTION OF THE ENVIRONMENT AND HUMAN HEALTH IN MINING OPERATIONS IN ZAMBIA: LESSONS FROM SOUTH AFRICA' authored by KABUBA LINDUNDA, STUDENT NUMBER LLB20121480 was done under my supervision, be