



UNIVERSITY of LUSAKA

Passion for Quality Education: Our Driving Force

SCHOOL OF LAW

**TO EXAMINE THE WEAKNESSES IN ZAMBIA'S MINING LEGAL FRAMEWORKS
WITH REGARDS TO PENALTY STRUCTURES, ENVIRONMENTAL SAFEGUARDS,
AND COMMUNITY PROTECTIONS: LESSONS DRAWN FROM SOUTH AFRICA AND
BOTSWANA.**

By:

MSANGO FEBBY

LLB 21211554

**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

CONTENTS

DECLARATION	v
SUPERVISOR RECOMMENDATION	vi
DEDICATION.....	vii
ACKNOWLEDGMENTS	viii
TABLE OF STATUTES	ix
CHAPTER ONE	1
1.0. INTRODUCTION	1
1.1. BACKGROUND OF THE STUDY	1
1.2. STATEMENT OF THE PROBLEM	2
1.3. RESEARCH OBJECTIVES.....	4
1.4. RESEARCH QUESTIONS	4
1.5. SIGNIFICANCE OF THE STUDY	4
1.6. SCOPE OF THE STUDY.....	5
1.7. LITERATURE REVIEW	6
1.8. METHODOLOGY.	12
1.9. ETHICAL CONSIDERATION.....	12
1.10. CHAPTER OUTLINE.	12
2.5 Recommendations for Strengthening the Legal Framework	13
CHAPTER TWO.....	15
AN ANALYSIS OF ENVIRONMENTAL PENALTY STRUCTURES IN ZAMBIA'S MINING LEGISLATION	15
2.0. INTRODUCTION	15
2.1. PROVISIONS AND PENALTIES UNDER THE ENVIRONMENTAL MANAGEMENT ACT NO. 12 OF 2011	16
2.1.1. CORE ENVIRONMENTAL PROVISIONS	16
2.1.2. ANALYSIS OF EMA'S PENALTY STRUCTURE	17
CRIMINAL PENALTIES AND FINES	18
2.2. ENVIRONMENTAL PROVISIONS UNDER THE MINERALS REGULATION COMMISSION ACT NO. 14 OF 2024.....	19

2.2.1. ENVIRONMENTAL MANDATES OF THE MINERALS REGULATION COMMISSION	20
2.3. ANALYSIS OF THE MRC ACT'S PENALTY STRUCTURE	21
2.4. WEAKNESSES IN PENALTY STRUCTURES, A COMPARATIVE ANALYSIS.....	22
2.4.1. INADEQUATE FINANCIAL DETERRENCE	22
2.4.2. FRAGMENTATION OF AUTHORITY AND ENFORCEMENT	23
2.4.3. WEAK PROVISIONS FOR CRIMINAL AND PERSONAL LIABILITY	24
2.4.4. LACK OF SPECIFICITY IN ADDRESSING LONG-TERM DAMAGE	24
2.5. CONCLUSION	24
CHAPTER THREE.....	26
EXAMINING SOUTH AFRICA'S LEGAL FRAMEWORKS AND DRAWING LESSONS ON STRICTER PENALTIES AND REHABILITATION BONDS IN ZAMBIA IN ORDER TO PROTECT THE ENVIRONMENT.	26
3.0. INTRODUCTION	26
3.1. PROCEDURES FOR CO-OPERATIVE GOVERNANCE	27
3.2. PENALTIES AND ENFORCEMENT IN NEMA	29
CRIMINAL PROVISIONS AND SEVERE PENALTIES	29
3.3. ADMINISTRATIVE PENALTIES	30
3.4. A FOCUS ON FINANCIAL GUARANTEES UNDER THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (MPRDA)	31
FINANCIAL PROVISION FOR REHABILITATION	31
3.5. DRAWING LESSONS FOR ZAMBIA, A FRAMEWORK FOR REFORM	33
LESSONS ON STRICTER PENALTIES	33
A. INCREASE THE QUANTUM OF FINES AND IMPRISONMENT	33
B. EMPOWER ADMINISTRATIVE ENFORCEMENT	34
LESSONS ON REHABILITATION BONDS AND FINANCIAL PROVISION	34
3.6. CONCLUSION	35
CHAPTER FOUR.....	37
BOTSWANA'S LEGAL FRAMEWORKS AND DRAWN LESSONS ON STRICTER PENALTIES AND REHABILITATION BONDS IN ZAMBIA IN ORDER TO PROTECT THE ENVIRONMENT.....	37

4.0. INTRODUCTION	37
4.1. BOTSWANA'S ENVIRONMENTAL LEGAL FRAMEWORK: A PROACTIVE AND PUNITIVE APPROACH	38
4.1.1. ENVIRONMENTAL ASSESSMENT ACT NO. 11 OF 2011 OF BOTSWANA.....	38
4.2. THE MINES AND MINERALS ACT AND THE RISE OF REHABILITATION BONDS	39
4.3. OTHER KEY LEGISLATION AND PUNITIVE MEASURES	40
4.4. ZAMBIA'S ENVIRONMENTAL LEGAL FRAMEWORK: THE CHALLENGE OF IMPLEMENTATION.....	41
4.4.1. THE ENVIRONMENTAL MANAGEMENT ACT, 2011	41
4.4.2. A GAP IN REHABILITATION BONDS	42
4.5. DRAWING LESSONS FROM BOTSWANA: STRICTER PENALTIES AND REHABILITATION BONDS	42
4.5.1. LESSONS ON STRICTER AND PROGRESSIVE PENALTIES	43
4.5.2. LESSONS ON REHABILITATION BONDS	44
4.5.3. SPECIFIC PROVISIONS ZAMBIA CAN DRAW LESSONS FROM	44
4.6. CONCLUSION	45
CHAPTER FIVE	47
CONCLUSION AND RECOMMENDATIONS	47
5.0. GENERAL FINDING AND CONCLUSIONS	47
5.1. SPECIFIC FINDINGS AND CONCLUSIONS	47
5.1.2. CHAPTER ONE	47
5.1.3. CHAPTER TWO	48
5.1.4. CHAPTER THREE	48
5.1.5. CHAPTER FOUR	49
5.2. RECOMMENDATIONS	50

DECLARATION

I, **MSANGO FEBBY**, hereby declare that this dissertation 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 peoples work used in the study has 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 

Date: 31/10/2025

SUPERVISOR RECOMMENDATION



UNIVERSITY
OF LUSAKA
Pursuing the Quality Education, Our Lifetime Pursuit

SCHOOL OF LAW
L400B / Dissertation II – DIRECTED RESEARCH (OBLIGATORY ESSAY)
RESEARCH CLEARANCE FORM

NAME: MSANGO FEBBY

STUDENT NUMBER: LLB21211554

SUPERVISOR: MR K.G CHISANGA

TOPIC: TO EXAMINE THE WEAKNESSES IN ZAMBIA'S MINING LEGAL FRAMEWORKS WITH REGARDS TO PENALTY STRUCTURES, ENVIRONMENTAL SAFEGUARDS, AND COMMUNITY PROTECTIONS: LESSONS DRAWN FROM SOUTH AFRICA AND BOTSWANA.

Stage	Supervisor's Comments	Supervisor's Signature & Date	Student's Signature & Date
Research Proposal	Nil	21.9.25 	 12/09/2025
Chapter 1 – Introduction	Nil	21.11.25 	 12/09/2025
Chapter 2 –	Nil		 03/11/2025
Chapter 3 –	Nil		 03/11/2025
Chapter 4 –	Nil		 13/11/2025
Chapter 5 – Conclusions & Recommendations	Nil		 13/11/2025
Abstract, Table of Contents, Bibliography and Appendices	Nil		 13/11/2025

First Draft	Grammar and numbering		13/11/2025
Second Draft	N/A		 13/11/2025
Final Draft	Approved		 13/11/2025

DEDICATION

This research is dedicated to my husband Goodyear Jonathan Ndlovu, my children; Temwani Isaac Shawa, Taonana Prince Shawa and Kabelo Aeden Ndlovu, My niece Elita Banda and My young brother Funwell Mwewa for always believing in me and being a constant source of help, motivation and encouragement.

ACKNOWLEDMENTS

God has been merciful and His grace saw me through this journey, this paper would not have been possible without Him.

Special thanks goes to my supervisor Mr Kangwa-Musole George Chisanga (Jnr.), he made my whole journey lighter by being always available and ready to advice and guide during my compilation period. He surely is an epitome of knowledge especially with my research area.

Special thanks also to the academic and non- academic staff of the University of Lusaka for their help and assistance during the period of study.

To my friends Taonga Nyirongo, Victor Akalala, Kakoho Kapesi, Clive Kaluba, Grace Khondowe and Nancy Chungu thank you for guiding and supporting me through this journey. I am forever grateful.

TABLE OF STATUTES

- Minerals Regulation Commission Act of 2024
- Environmental Management Act (EMA) of 2011
- Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002
- National Environmental Management Act No. 107 (NEMA) of 1998
- Mines and Minerals Act No. 17 of 1999
- Mines and Minerals (Amendment) Act, 2024
- Environmental Assessment Act of 2011

CHAPTER ONE

1.0. INTRODUCTION

The mining sector remains the backbone of Zambia's economy, contributing significantly to the country's gross domestic product (GDP), foreign exchange earnings, and employment.¹ Despite this centrality, Zambia's legal and regulatory frameworks governing mining operations have repeatedly come under scrutiny for their inadequacy in ensuring environmental protection, penalizing violations effectively, and safeguarding the rights and interests of host communities. These gaps have not only compromised sustainable development but also heightened tensions between mining corporations, the state, and affected communities. A comparative analysis with countries like South Africa and Botswana whose mining frameworks has evolved with more robust environmental and social protection mechanisms offers critical lessons that can inform Zambia's regulatory reforms.

It should be noted that Zambia's mining laws, particularly the **Minerals Regulation Commission Act of 2024**² and **Environmental Management Act (EMA) of 2011**³ are often investor-centric and lack adequate deterrent penalties for environmental and human rights violations. Vague community benefit provisions have led to persistent environmental degradation, displacement, and loss of livelihoods without meaningful compensation or redress. In contrast, **South Africa's Mineral and Petroleum Resources Development Act (MPRDA)**⁴ and Mining and Environmental Acts have fostered a more balanced approach to mining governance.

1.1. BACKGROUND OF THE STUDY

Zambia's mineral wealth, especially its vast copper reserves, has positioned the country as a significant player in the global mining industry.⁵ However, this economic advantage

¹Griffin Nyirongo, "a study on frameworks and policies for governance in the mining sector in Zambia." December 2017

²Minerals Regulation Commission Act of 2024

³Environmental Management Act (EMA) of 2011

⁴South Africa's Mineral and Petroleum Resources Development Act (MPRDA)

⁵Griffin Nyirongo, "a study on frameworks and policies for governance in the mining sector in Zambia." December 2017

has been accompanied by a legacy of socio-environmental challenges, largely due to weak regulatory oversight and governance inefficiencies.⁶ The current legal framework places heavy emphasis on attracting foreign direct investment, often at the expense of stringent environmental and social protections.⁷ It can be argued that the penalty structures under Zambian mining laws are insufficient to deter harmful practices such as illegal dumping of mining waste, air and water pollution, and disregard for community development obligations.⁸

Unlike Zambia, South Africa has adopted a more integrated legal framework that emphasizes environmental management and social responsibility through its **MPRDA**⁹ and the **National Environmental Management Act (NEMA)**.¹⁰ These laws enforce environmental impact assessments (EIAs), rehabilitation obligations, and community participation in decision-making processes.¹¹ Similarly, Botswana has successfully balanced mining profitability with environmental integrity and community welfare. Through institutions like the **Environmental Assessment Act**¹² and community equity participation mechanisms, Botswana has ensured that mining contributes to long-term national development without disproportionately harming local populations.

This study is premised on the need to critically evaluate Zambia's legal and institutional mining frameworks, identify their weaknesses, and draw comparative insights from South Africa and Botswana. It seeks to explore how reforms in penalty structures, environmental safeguards, and community protections can be modeled after these countries to promote sustainable and equitable mining in Zambia.

1.2. STATEMENT OF THE PROBLEM

The mining sector is a cornerstone of Zambia's economy, significantly contributing to employment, government revenue, and foreign exchange earnings. However, despite

⁶Fraser, A., & Lungu, J. (2007). For Whom the Windfalls? Winners and Losers in the Privatization of Zambia's Copper Mines.

⁷Ibid

⁸Ibid

⁹South Africa's Mineral and Petroleum Resources Development Act (MPRDA)

¹⁰National Environmental Management Act (NEMA)

¹¹Kotzé, L.J., & Du Plessis, A. (2010). Some Brief Observations on Fifteen Years of Environmental Rights Jurisprudence in South Africa.

¹²Environmental Assessment Act

its economic importance, the legal framework governing the sector struggles to ensure sustainable and responsible mining practices. Persistent issues such as weak environmental protections, non-compliance by mining companies, and conflicts with local communities raise concerns about the sector's long-term viability and socio-environmental impact. While Zambia has enacted legislation such as the **Environmental Management Act (EMA) of 2011** and the **Minerals Regulation Commission Act of 2024**, questions remain about the adequacy of these laws in deterring violations, promoting compliance, and safeguarding environmental and community interests.

A critical weakness in Zambia's legal framework is the insufficient deterrence of penalties for non-compliance. For instance, **Section 125 of the EMA** imposes a maximum fine of **K120,000 (300,000 penalty units)** or imprisonment for up to three years for environmental violations, while **Section 92 of the Minerals Regulation Commission Act** prescribes a fine of up to **one million penalty units (approx. K400,000) or ten years imprisonment** for unspecified offences. However, these penalties may be too lenient compared to the financial gains from non-compliance, making them ineffective in discouraging violations. Additionally, the laws lack clear provisions on cumulative penalties for repeat offenders, environmental remediation requirements, and corporate liability, weakening their overall impact.

Comparatively, South Africa's mining regulatory framework offers stronger legal safeguards. The **Mineral and Petroleum Resources Development Act (MPRDA)** and the **National Environmental Management Act (NEMA)** mandate rigorous Environmental Impact Assessments (EIAs), rehabilitation plans, and strict adherence to the "polluter pays" principle. Unlike Zambia, South Africa imposes heavier fines and revocation of licenses for serious violations, creating a stronger deterrent. Another country with notable mining regulations is Botswana, which enforces strict environmental standards under the **Mines and Minerals Act** and the **Environmental Assessment Act**. Botswana's laws require financial guarantees for mine rehabilitation, ensuring that companies bear the cost of environmental restoration.

This study seeks to evaluate Zambia's legal framework by assessing its structural weaknesses such as inadequate penalties, lack of mandatory rehabilitation clauses, and weak corporate accountability. By comparing Zambia's laws with those of South Africa and Botswana, the research will identify legal gaps and propose reforms to strengthen compliance, enhance environmental protection, and align Zambia's mining regulations with international best practices.

1.3. RESEARCH OBJECTIVES

1. To evaluate the Legal frameworks governing the mining sector in Zambia and identify weaknesses in penalty structures with regards to protection of the environment.
2. To examine South Africa's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.
3. To examine Botswana's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

1.4. RESEARCH QUESTIONS

1. What are the Legal frameworks governing the mining sector in Zambia and the weaknesses that exist in penalty structures with regards to protection of the environment?
2. What are South Africa's Legal frameworks and the lessons that can be drawn in order to provide stricter penalties and rehabilitation bonds in Zambia in order to protect the environment?
3. What are Botswana's Legal frameworks and the lessons that can be drawn in order to provide stricter penalties and rehabilitation bonds in Zambia in order to protect the environment?

1.5. SIGNIFICANCE OF THE STUDY

The significance of this study lies in its potential to inform meaningful legal and policy reforms in Zambia's mining sector by critically evaluating existing regulatory

weaknesses and drawing valuable lessons from countries with more progressive mining governance systems. Zambia's reliance on mining as a cornerstone of its economy necessitates a robust legal framework that ensures not only profitability but also environmental sustainability and social equity. By examining the deficiencies in Zambia's penalty structures, environmental safeguards, and community protections, this study contributes to the broader discourse on sustainable resource governance. Specifically, the study highlights the consequences of weak enforcement mechanisms, minimal financial guarantees for environmental rehabilitation, and the marginalization of local communities in mining decision-making processes.

The comparative analysis with South Africa and Botswana offers practical models that Zambia could adopt or adapt. These countries have demonstrated that mining regulation can be harmonized with environmental stewardship and community development through legal mechanisms such as strict penalty provisions, mandatory environmental impact assessments, financial provisioning for rehabilitation, and participatory governance. Policymakers, legal scholars, civil society, and industry stakeholders in Zambia will benefit from the study's findings, which could shape the development of more effective, transparent, and enforceable mining laws. Furthermore, the study adds to the growing body of African legal scholarship that calls for homegrown solutions to resource governance challenges, thus enhancing regional knowledge exchange and collaboration.

1.6. SCOPE OF THE STUDY

This study is delimited to a critical examination of Zambia's mining legal frameworks with a focus on three specific regulatory areas: penalty structures, environmental safeguards, and community protections. It will analyze key statutes such as the **Minerals Regulation Commission Act of 2024** and the **Environmental Management Act of 2011**, and related subsidiary legislation. The study will evaluate how these laws address violations, environmental degradation, and community rights, and assess the institutional capacity for enforcement. The research will also investigate the extent to which Zambia's legal provisions align with international best practices and principles of sustainable development.

Comparative analysis will be limited to the mining legal frameworks of South Africa and Botswana, with a focus on the **Mineral and Petroleum Resources Development Act (MPRDA)** and the **National Environmental Management Act (NEMA)** in South Africa, and the **Mines and Minerals Act and Environmental Assessment Act in Botswana**. The study does not aim to conduct a technical or geological assessment of mining operations, nor does it provide a financial audit of the industry. Instead, it emphasizes legal, institutional, and policy analysis based on a review of statutes, regulations, scholarly literature, case law, and relevant international environmental and human rights instruments. The geographical scope is restricted to Zambia, South Africa, and Botswana, although references to global best practices may be included where relevant to support the analysis.

1.7. LITERATURE REVIEW

Bouchard, M., Sauve, S., Barbeau, B., Legrand, M., Brodeur, M.-E., Bouffard, T., Limoges, E., Bellinger, D. & Mergler, D¹³ state that Zambia has a long history of mining due to its rich resources of mainly copper, manganese and cobalt. The previously state-owned mines have been privatized and for the last decade the government has encouraged foreign investments in the mining sector as a way of boosting the country's economic activity. Mining in developing countries like Zambia can however be a treasure or a trouble depending mainly on factors like institutional stability, economic management and overall management of the sector itself. An often neglected fact in countries struggling against poverty is that mining has a significant, and quite often severe, impact on its surrounding. For a developing mining nation, it is therefore evident that environment and development are not separate challenges; instead they are unavoidably linked. This paper is different from the dissertation above because it seeks to evaluate the Legal frameworks governing the mining sector in Zambia and identify weaknesses in penalty structures with regards to protection of the environment.

¹³Bouchard, M., Sauve, S., Barbeau, B., Legrand, M., Brodeur, M.-E., Bouffard, T., Limoges, E., Bellinger, D. & Mergler, D., 2011: Intellectual impairment in school-age children exposed to manganese from drinking water. Environmental Health Perspectives.

Norrgren, L., Pettersson, U., Örn, S. & Bergqvist¹⁴ state that there are many environmental impacts resulting from mining activities. In this study, a choice has been made to focus on impacts with mostly local and sometimes regional effects. This means that environmental issues with impacts on a global scale, such as emission of greenhouse gases, are not considered. Impacts resulting from mining is focused on the following topics: • air pollution, • soil contamination, • water pollution and siltation, • geotechnical issues, and • land degradation. Due to Zambia's long history as a mining nation there are many historical legacy sites that cause environmental problems. In many historical mining areas, there are now new operations which make it hard to distinguish between historical and current impacts of mining. The paper above can be said to be different from this dissertation above because it seeks to evaluate the Legal frameworks governing the mining sector in Zambia and identify weaknesses in penalty structures with regards to protection of the environment.

Chifungula, D. A.¹⁵ states that Environmental problems directly linked to historical mining operations in the Copperbelt are largely related to geotechnical integrity of waste dumps. There are at least 21 waste rock dumps covering more than 388 hectares, 9 slag dumps covering 279 hectares and finally more than 45 tailing dams covering an area of around 9125 hectares. In total, more than 10 000 hectares in the Copperbelt is covered with mineral waste and thus represent a “loss of opportunity” for the local population in terms of other land use such as agriculture, forestry, housing, ranching etc. In addition to the geotechnical risks associated with waste dumps, the use of tailing ponds for water supply and fishing, as well as growing crops on the tailing surface has the potential to cause health impacts. Mine waste containing sulfide minerals is a potential source for acid mine drainage (AMD) if they are exposed to oxygen and water. Acid forms when sulfide minerals weather by oxidation, and if the neutralizing capacity of the surrounding rock is too low to buffer the generated acid, the result will be low pH waters with high metal content.

¹⁴Norrgren, L., Pettersson, U., Örn, S. & Bergqvist, P.-A., 2000: Environmental monitoring of the Kafue River, Located in the Copperbelt, Zambia. Archives of Environmental Contamination and Toxicology.

¹⁵Chifungula, D. A. (2014). Report of the Auditor General on the Management of Environmental Degradation Caused by Mining Activities in Zambia.

Generally the geology in the Copperbelt area is enriched with carbonates which act as a buffer against acidification. Because of that, acid mine drainage waters is a rare feature in the Copperbelt. The only major exception is a 2 hectares large former ore stockpile in Chibuluma west of Kitwe. Drainage water from the area holds a pH of 2–3 and high content of primarily copper and cobalt. No people reside within the contaminated area or in the immediate surroundings to the north following the contaminated watercourse. Besides the acid mine drainage in Chibuluma and the land degradation issues described above all the historical mine sites naturally also give rise to other environmental impacts such as dust fallout and discharge of suspended solids to surface waters. However, an extensive study states that the contributions from old mining legacy sites are only minor compared to current mining operations. This research above is different from this dissertation because it seeks to examine South Africa's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

Simutanyi, N.¹⁶ states that since 2001, most of the previously state-owned and unprofitable copper mines have been revived through extensive investments by new owners. As the mining operations are scaling up production to make profits on the invested capital, the concern for the environment is prone to be overlooked. A number of serious environmental impacts are directly linked to operating copper mines, and the most important ones are described here. Air pollution In Zambia, the mining industry contributes to over 98% of the country's SO₂ emissions. In the early 2000s, the total SO₂ emission was 346 700 ton/year. Recent investments in mining activities are expected to yield increased SO₂ emissions because of several new copper smelters. High SO₂ concentrations will directly affect the health of both humans and biota.

Oxides of sulphur (SO_x) can irritate respiratory passages and aggravate asthma, emphysema and bronchitis. Due to normal weather conditions (i.e. wind speed and

¹⁶Simutanyi, N., 2008: Copper mining in Zambia, The developmental legacy of privatization. Institute for security studies.

direction) areas northwest and west of the large Nkana and Mufulira smelters are severely affected by poor air quality. Measurements taken in those areas have shown concentrations between 500 and 1000 µg/m which clearly exceeds the Zambian guideline of 50 µg/m³. Most residential areas in both the city of Mufulira and Kitwe lie directly within the affected vicinity of the smelters and the inhabitants there are daily exposed to concentrations exceeding maximum daily average guidelines for SO₂. Particulate matter less than 10 µm in size (PM₁₀) originates both from smelters and from dusting of tailing dams and unpaved roads. The largest contribution comes from smelters, and the same geographical scenario as described for the SO₂ emissions prevails also for PM₁₀. Children exposed to high concentrations of PM₁₀ are likely to have an increase in lower respiratory symptoms and reduced lung functions. This research above is also different from this dissertation because it seeks to examine South Africa's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

Joanna Lindahl¹⁷ states that accumulation of metals in soil is a result from wind-borne dust particles and particle fall-out from smelters. The main soil contaminants that occur in concentrations high enough to constitute a significant hazard to human health, are copper and cobalt. A broad study on soil contamination has been made in the Copperbelt. The study showed that the highest concentrations for many elements were geographically directly associated with the districts of Kitwe, Mufulira and Chingola, and also to a lesser extent with Kalulushi, Chililabombwe and Chambishi. It is difficult to estimate how many of the Copperbelt residents who are directly living upon or using contaminated soils for agriculture. It should be pointed out that soils in mineral rich areas often are naturally enriched in metals. Soil samples from the subsurface (70–90 cm) show that chromium and nickel in quite many places actually are higher below the surface soil layer. In the case for copper, subsurface samples show that the surface soil layer contains at least ten times, and quite often more than 50 times, higher concentrations in more or less the whole Copperbelt. The research above is different

¹⁷Joanna Lindahl, "Towards better environmental management and sustainable exploitation of mineral resources." 2014

from this dissertation because it seeks to examine Botswana's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

Banda, W. N¹⁸ state that the mining operations in the Copperbelt all lie within the catchment area of the Kafue River. Kafue's watershed is the most developed in the country and the river is coming under increasing threat from pollution as well as competition in water utilization. The major cities in the Copperbelt region receive their domestic water supply from the Upper Kafue, and concern for potentially contaminating mining activities is always present. The Kafue River and its branches are also used for irrigation as well as for providing local communities with fish. Several studies have shown that concentrations of many dissolved elements (i.e. ions) are clearly elevated in the Kafue and its tributaries within the Copperbelt. Metal discharges can negatively affect biodiversity and alter species composition in streams.

In general, the aquatic biota is more sensitive to contamination than higher animals or plants and, therefore, water quality standard with the aim to protect aquatic life are often considerably stricter than standards for drinking water. The dissolved copper content has shown to be considerably higher than standards for protecting aquatic life in more or less all monitoring stations within the Copperbelt region. The most significant contributors to metal pollution are the Nchanga, Nkana and Konkola mining operations. Downstream the mining operations, the concentrations of mining-related contaminants are quickly lowered mainly due to the formation of secondary particles that rapidly settles on the river bed. The research above is also different from this dissertation because it seeks to examine Botswana's Legal frameworks and draw lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

Pettersson, U¹⁹ states that in Zambia many people are directly or indirectly dependent upon resources provided by aquatic ecosystems, mainly through fishing. In addition to

¹⁸Banda, W. N. (2016). Environmental Impacts of Large Scale Mining in Zambia

¹⁹Pettersson, U., 2002: A geochemical study of the Kafue River, Zambia. Luleå University of Technology.

the Kafue River, tailing dams in the Copperbelt are an important source of fish for the local communities. Several fish samples from the Kafue and various tailing dams have shown elevated concentrations of particularly copper and cobalt compared to fish from unaffected waters upstream the mining operations). A research experiment with caged fish (three spot tilapia) showed bioaccumulation of many trace elements already after only two weeks exposure downstream a mining operation. From an ecotoxicological aspect, the pollution of metals in the Kafue is severe and affects aquatic animal health. However, when assessing metal concentrations in fish compared to guidelines values for oral intake it is clear that no immediate health risk is associated with consumption of fish from the Copperbelt.

Czech Geological Survey²⁰ state that the capital of the Central province, Kabwe, was founded in the early 1900s when the Broken Hill lead and zinc deposits were discovered. The Broken Hill Mine was for a long time the largest in the country until it was overtaken by larger copper mines in the early 1930s. Apart from lead and zinc the mine also produced smaller amounts of silver and cadmium. The mine has been closed for almost two decades and the legacy site which occupies 250 hectares is located 1 km south-west of the town center. The major environmental problem lingering from the historical mining activities is serious contamination of soils as a result of smelting and dust emissions from waste dumps. The content of lead in soils can reach as high as 26000 mg/kg in the most polluted areas and thus a high content is also to be found in agricultural products. Land up to 4 km away from Kabwe in all directions, and at least as far away as 14 km to the west is unsuitable for agricultural purposes. High concentration of lead in soils, consumption of contaminated vegetables, inhalation of lead rich dust and usage of lead polluted water has led to higher concentrations in the blood of citizens living in Kabwe.

²⁰Czech Geological Survey, 2008: Assessment of impacts of mining and mineral processing on the environment and human health in selected regions of the Central and Copperbelt Provinces of Zambia – Annual report for the Kabwe area.

1.8. METHODOLOGY.

This research will employ a qualitative methodology, primarily utilizing desk research. Data will be gathered through online search engines to access information from international sources or locations that are logistically inaccessible. This approach enables the researcher to draw from a diverse range of materials, such as articles, books, and similar resources.

1.9. ETHICAL CONSIDERATION.

The researcher commits herself to upholding numerous ethical considerations which will include getting permission from the University of Lusaka to conduct the research. In order to conduct this study, the thesis will ensure that the data collected from the research subjects will not be misused. Further, the researcher makes a pledge not to falsify any data within this research and to use proper channels in finding and collecting all needed data.

1.10. CHAPTER OUTLINE.

CHAPTER ONE: Under Chapter one, the overall overview of the research has been provided giving the background to the research, research problem in relation to the study and research questions, significance of the study, literature review, research methodology and limitation.

CHAPTER TWO: This chapter will be aimed at examining the Legal frameworks governing the mining sector in Zambia and identifying weaknesses in penalty structures with regards to protection of the environment.

CHAPTER THREE: This chapter will be aimed at examining South Africa's Legal frameworks and drawing lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

CHAPTER FOUR: This chapter will be aimed at examining Botswana's Legal frameworks and drawing lessons on stricter penalties and rehabilitation bonds in Zambia in order to protect the environment.

CHAPTER FIVE: This chapter shall contain recommendations on the necessary developments that can be made to the existing legal framework in Zambia so as to create a much more enabling environment for protection of the environment.

2.5 Recommendations for Strengthening the Legal Framework

To address the weaknesses identified, a series of recommendations are proposed to strengthen Zambia's legal framework for environmental protection in the mining sector.

Recommendation 1: Increase Fines and Introduce Tiered Penalties. The current fines must be reviewed and significantly increased to a level that acts as a meaningful deterrent for multinational corporations. This should be done through a new statutory instrument that updates the penalty units. Additionally, a tiered penalty system should be introduced where the fine is proportional to the scale of the company's revenue and the severity of the environmental harm. For instance, a fine for a major oil spill could be set as a percentage of the company's annual revenue, not a fixed amount. This would ensure that the penalty is financially painful and acts as a genuine deterrent, regardless of the size of the company.

Recommendation 2: Strengthen Criminal and Personal Liability. The legal framework should be amended to introduce strict criminal liability for environmental offences. This would mean that an individual (e.g., a director, manager, or site supervisor) could be held criminally responsible for causing or failing to prevent a significant environmental disaster, regardless of whether it can be proven they had explicit "knowledge" of the specific act. Gross negligence should be a sufficient condition for a criminal charge. This would send a powerful message that environmental compliance is not just a corporate responsibility but a personal one.

Recommendation 3: Consolidate and Empower Enforcement Agencies. While the MRC Act's attempt to promote collaboration is a good step, more is needed. The

mandates of ZEMA and the MRC, particularly concerning environmental enforcement, should be clearly and unequivocally delineated to prevent jurisdictional overlaps and gaps. Consideration should be given to establishing a joint enforcement task force with members from both ZEMA and the MRC, as well as the police, to ensure coordinated and rapid responses to environmental crimes. This task force would have a mandate to investigate, prosecute, and enforce penalties across both Acts, eliminating the risk of a company falling through the cracks.

Recommendation 4: Ensure Financial Security for Long-Term Obligations. The Environmental Protection Fund must be reformed to be more robust. The contributions of mining companies should be independently audited and managed by a neutral body to prevent non-compliance. The fund should also be structured to cover the costs of long-term environmental rehabilitation, including acid mine drainage and soil remediation, for decades after a mine's closure. Penalties for non-contribution should be severe, including the immediate suspension of a company's mining licence.

Recommendation 5: Enhance Public Participation and Access to Justice. The legal framework should provide a clearer and more accessible path for affected communities to seek compensation for environmental harm. While the EMA has provisions for public interest litigation, the process can be cumbersome and inaccessible for most communities. Amendments could introduce a dedicated "Environmental Tribunal" with the specific mandate to hear environmental cases and issue binding orders for both remediation and compensation. This would empower local communities and create an additional layer of accountability, ensuring that the polluter pays not just the state, but also those who have been harmed.

CHAPTER TWO

AN ANALYSIS OF ENVIRONMENTAL PENALTY STRUCTURES IN ZAMBIA'S MINING LEGISLATION

2.0. INTRODUCTION

Zambia's economy is heavily reliant on its vast mineral resources, with the mining sector serving as a cornerstone of national development. However, this economic driver comes with significant environmental risks, including land degradation, water contamination, air pollution, and the destruction of biodiversity. To manage these impacts, Zambia has established a legal framework designed to regulate the sector and hold mining companies accountable. The primary legislative instruments governing this relationship are the **Environmental Management Act (EMA) No. 12 of 2011**²¹ and the recently enacted **Minerals Regulation Commission (MRC) Act No. 14 of 2024**.²²

While the EMA provides a comprehensive, cross-sectoral framework for environmental protection, the MRC Act specifically targets the mining industry, establishing a new regulatory body and aiming to streamline oversight. A critical aspect of these frameworks is their penalty structures, which are intended to deter environmental non-compliance and provide recourse for harm. This chapter will conduct a detailed analysis of the provisions and penalties within these two key pieces of legislation. It will argue that while both Acts establish a foundation for accountability, significant weaknesses in their penalty structures, including insufficient fines, a reliance on civil rather than criminal liability, and fragmented enforcement mechanisms undermine their

²¹Environmental Management Act (EMA) No. 12 of 2011

²²Minerals Regulation Commission (MRC) Act No. 14 of 2024

effectiveness in safeguarding Zambia's environment. The chapter will address these weaknesses by examining the relevant provisions of each Act and proposing a set of recommendations to strengthen the legal framework for a more robust and sustainable future for Zambia's mining sector.

2.1. PROVISIONS AND PENALTIES UNDER THE ENVIRONMENTAL MANAGEMENT ACT NO. 12 OF 2011

The **Environmental Management Act (EMA) of 2011**²³ is Zambia's principal environmental law, superseding the Environmental Protection and Pollution Control Act of 1990. It is a foundational piece of legislation that establishes the Zambia Environmental Management Agency (ZEMA) as the central authority for environmental oversight. The EMA is a "framework law" that applies to all sectors of the economy, including mining, and provides the overarching principles and legal mechanisms for environmental protection. Its key provisions relevant to the mining sector include Environmental Impact Assessments (EIAs), pollution control, waste management, and the power to issue environmental orders.

2.1.1. CORE ENVIRONMENTAL PROVISIONS

The **Act** mandates that all "prescribed projects" a category that unequivocally includes mining and mineral processing must undergo an Environmental Impact Assessment (EIA) before commencement.²⁴ **Section 29**²⁵ of the **Environmental Management Act (EMA) No. 12 of 2011** states that a developer must submit an Environmental Project Brief or an Environmental Impact Statement to the Agency for approval. This process is designed to identify, predict, and evaluate the environmental consequences of a project and to propose mitigation measures. This provision is crucial for the mining sector, as it is the first point of regulatory contact for a new project, setting the baseline for all subsequent environmental obligations. Failure to comply with the EIA process can result in a fine of up to seven hundred thousand penalty units or imprisonment for a term not exceeding seven years, or both, as per a 2023 amendment to the Act. While this penalty

²³Environmental Management Act (EMA) No. 12 of 2011

²⁴Ibid

²⁵Section 29 of the Environmental Management Act (EMA) No. 12 of 2011

seems substantial, as will be discussed later, it often fails to act as a meaningful deterrent for large-scale mining corporations.

Part V²⁶ of the EMA, titled "Environmental Protection and Pollution Control," is particularly relevant to mining operations. **Section 45**²⁷ prohibits the discharge of any pollutant into the environment "in excess of the prescribed standard." This broad prohibition is critical for regulating effluents, emissions, and waste from mines. The Act empowers ZEMA to set and enforce standards for air, water, and soil quality. Furthermore, **Part VI**²⁸ of the Act addresses waste management, requiring all persons to "avoid, reduce, reuse, recycle and recover waste." Mining companies, which generate enormous quantities of waste, including tailings and waste rock, are required to obtain a waste management license and manage their waste streams in a manner that protects human health and the environment.

2.1.2. ANALYSIS OF EMA'S PENALTY STRUCTURE

The EMA provides a variety of enforcement tools and penalties to ensure compliance. These can be categorized into administrative and criminal sanctions.

ZEMA inspectors have significant powers under the Act, including the authority to issue various administrative orders.

- **Environmental Restoration Order under Section 105:**²⁹ This is a key tool that allows ZEMA to require a person or entity to take specific actions to restore an area that has been degraded by their activities. This is in line with the "polluter pays principle." The order can require the polluter to cease the polluting activity, clean up the contamination, and undertake rehabilitation.

²⁶Part V of the Environmental Management Act (EMA) No. 12 of 2011

²⁷Section 45 of the Environmental Management Act (EMA) No. 12 of 2011

²⁸Part VI of the Environmental Management Act (EMA) No. 12 of 2011

²⁹Section 105 of the Environmental Management Act (EMA) No. 12 of 2011

- **Compliance Order under Section 106:**³⁰ An inspector may issue a compliance order to a licensee who is in breach of their license conditions, compelling them to rectify the violation within a specified period.
- **Other Orders:** The EMA also provides for prevention orders, protection orders, and cost orders, which allow the Agency to recover the expenses incurred in preventing or mitigating environmental damage.

The weakness here lies not in the existence of these orders, but in their enforcement. The effectiveness of an administrative order is contingent on the political will and the resources of ZEMA to follow up and ensure compliance. Historically, ZEMA has faced challenges related to underfunding and a lack of capacity to consistently monitor and enforce compliance across the vast number of mining operations in the country. This can lead to a situation where a non-compliant company simply ignores or delays its response to an order without immediate and severe consequences.

CRIMINAL PENALTIES AND FINES

The EMA also outlines a range of criminal offences and their corresponding penalties. **Section 113**,³¹ the general penalty clause, states that a person who commits an offence under the Act for which no specific penalty is provided is liable, on conviction, to a fine not exceeding one million penalty units or to imprisonment for a term not exceeding ten years, or both. Specific offences, such as failing to comply with an environmental restoration order under **Section 105(4)**³² or discharging a pollutant in excess of a prescribed standard under **Section 45(4)**,³³ carry their own penalties, often involving fines in the range of one hundred thousand to seven hundred thousand penalty units and/or imprisonment.

From the perspective of a large-scale mining corporation, these fines, while seemingly substantial on paper, are often viewed as a minimal "cost of doing business." A fine of seven hundred thousand penalty units, equivalent to roughly \$40,000 USD at the

³⁰Section 106 of the Environmental Management Act (EMA) No. 12 of 2011

³¹Section 113 of the Environmental Management Act (EMA) No. 12 of 2011

³²Section 105(4) of the Environmental Management Act (EMA) No. 12 of 2011

³³Section 45(4) of the Environmental Management Act (EMA) No. 12 of 2011

current exchange rate, pales in comparison to the billions of dollars in revenue generated by a major mine. This financial disproportion means that the penalties lack a meaningful deterrent effect. A company might calculate that it is more cost-effective to pay a fine than to invest in the necessary abatement technology or rehabilitation measures. This fundamental weakness undermines the entire regulatory framework, as the penalties are not commensurate with the scale of the environmental and social harm that can be caused by a major mining incident, such as a tailings dam collapse or a major chemical spill.

2.2. ENVIRONMENTAL PROVISIONS UNDER THE MINERALS REGULATION COMMISSION ACT NO. 14 OF 2024

The enactment of the **Minerals Regulation Commission (MRC) Act of 2024**³⁴ marks a fundamental transformation in Zambia's mining governance framework. Historically, the regulation of the mining sector was characterized by fragmentation, with multiple Directorates under the Ministry of Mines exercising overlapping and sometimes conflicting mandates. This structure often resulted in inefficiencies, regulatory uncertainty, and weak enforcement of compliance standards. The **MRC Act**³⁵ seeks to resolve these challenges by establishing the Minerals Regulation Commission as a single, autonomous regulatory authority mandated to oversee the entire mining value chain. This consolidation is designed to enhance transparency, efficiency, and accountability in the administration of Zambia's mineral resources while providing a streamlined regulatory environment that fosters investor confidence and sustainable resource management.

Although the primary thrust of the **MRC Act**³⁶ is economic and administrative, the legislation introduces important provisions with direct implications for environmental governance. The Act requires mining license holders to integrate environmental management plans into their operations as a precondition for obtaining and retaining mining rights. These provisions align with broader national and international

³⁴Minerals Regulation Commission (MRC) Act No. 14 of 2024

³⁵Ibid

³⁶Ibid

commitments to sustainable development, recognizing that unchecked mining activities pose significant risks to ecosystems, water resources, and surrounding communities. By embedding environmental safeguards into the licensing framework, the **MRC Act**³⁷ ensures that environmental protection is not treated as an afterthought but as an integral part of mining regulation. This approach complements existing legislation, such as the Environmental Management Act, by creating a dual compliance system where both environmental and mineral regulatory standards must be observed.

Furthermore, the Minerals Regulation Commission is empowered to collaborate closely with institutions such as the Zambia Environmental Management Agency (ZEMA) to ensure that mining operations adhere to environmental standards throughout their lifecycle. This includes monitoring the implementation of rehabilitation and closure plans for exhausted mines, thereby reducing the long-standing problem of abandoned mining sites that continue to cause environmental degradation. By strengthening institutional coordination and placing clear responsibility on mining entities for environmental stewardship, the Act represents a significant step towards embedding sustainability into Zambia's mining governance framework. In essence, while the **MRC Act**³⁸ is primarily focused on consolidating regulatory oversight and improving the economic governance of mineral resources, it also provides an important legal foundation for integrating environmental protection into the country's mining sector.

2.2.1. ENVIRONMENTAL MANDATES OF THE MINERALS REGULATION COMMISSION

The **MRC Act**³⁹ strengthens environmental accountability by integrating environmental considerations into the core of the mining lifecycle, from licensing to closure. **Section 6**⁴⁰ of the Act mandates the Commission to audit the environmental performance of licence holders in collaboration with ZEMA. This provision is a welcome development, as it promotes inter-agency coordination, which has been a historical weakness in Zambia's environmental governance. The Act also emphasizes the principle of

³⁷Ibid

³⁸Minerals Regulation Commission (MRC) Act No. 14 of 2024

³⁹Ibid

⁴⁰Section 6 of the Minerals Regulation Commission (MRC) Act No. 14 of 2024

"progressive rehabilitation," requiring mining right holders to carry out rehabilitation activities throughout the life of the mine, rather than waiting until closure. This proactive approach is intended to prevent the accumulation of legacy environmental liabilities.

A major addition in the **MRC Act**⁴¹ is the explicit recognition of the Environmental Protection Fund (EPF). The Act mandates that every holder of a mining right must contribute to the EPF, which serves as a financial security for environmental obligations, including rehabilitation and closure. While the EPF existed under the previous legislation, its effectiveness was limited by non-compliance and a lack of clear governance. The new Act aims to strengthen this mechanism.

2.3. ANALYSIS OF THE MRC ACT'S PENALTY STRUCTURE

The **MRC Act**⁴² introduces a series of its own penalties and enforcement measures. These provisions, in many cases, are designed to complement those of the EMA, providing the new Commission with its own set of teeth.

Enforcement Powers of the Commission: The Act grants the MRC broad powers to enforce compliance.

- **Suspension and Revocation of Rights:** The Commission has the power to suspend or revoke a mining right if a holder fails to comply with the terms and conditions of their licence, which includes environmental obligations. This is a powerful deterrent, as the financial loss associated with a suspension or revocation far outweighs any potential fine.
- **Offences and Penalties: Part XI**⁴³ of the **MRC Act** outlines various offences and penalties. **Section 130**⁴⁴ states that a person who carries out mining or exploration without a valid licence commits an offence and is liable, on conviction, to a fine not exceeding one million five hundred thousand penalty units or to imprisonment for a term not exceeding fifteen years, or both. This

⁴¹Minerals Regulation Commission (MRC) Act No. 14 of 2024

⁴²Ibid

⁴³Part XI of the Minerals Regulation Commission (MRC) Act No. 14 of 2024

⁴⁴Section 130 of the Minerals Regulation Commission (MRC) Act No. 14 of 2024

specific offence is a significant upgrade from previous legislation and is intended to curb illegal mining.

- **Corporate and Personal Liability:** Crucially, the **MRC Act**⁴⁵ introduces a provision for holding directors and officers of a company personally liable for environmental breaches. **Section 131**⁴⁶ states that where an offence under the Act is committed by a body corporate, a director, manager, or partner can also be held liable if the offence was committed with their knowledge. This provision represents a major shift from previous legislation and is a powerful tool for promoting corporate accountability.

However, the effectiveness of this corporate liability clause remains to be seen. The burden of proof to show that a director acted with "knowledge" of the offence can be difficult to meet in practice. Furthermore, while the **MRC Act**⁴⁷ enhances the powers of the Commission, its focus is primarily on the administrative aspects of mining. It does not provide the specific, detailed penalties for environmental violations that the EMA does. This means that for a major environmental incident, the EMA remains the primary legal instrument for imposing penalties. The true test of the **MRC Act's**⁴⁸ environmental enforcement will be in how the Commission and ZEMA collaborate.

2.4. WEAKNESSES IN PENALTY STRUCTURES, A COMPARATIVE ANALYSIS

A detailed comparison of the penalty structures in the EMA and the MRC Act reveals several critical weaknesses that hinder their ability to effectively protect the environment.

2.4.1. INADEQUATE FINANCIAL DETERRENCE

The most glaring weakness is the inadequacy of fines to deter large-scale mining operations. As noted, the fines stipulated in the EMA, while significant for an individual or a small-scale enterprise, are negligible for a multinational corporation. This creates a

⁴⁵Minerals Regulation Commission (MRC) Act No. 14 of 2024

⁴⁶Section 131 of the Minerals Regulation Commission (MRC) Act No. 14 of 2024

⁴⁷Minerals Regulation Commission (MRC) Act No. 14 of 2024

⁴⁸Ibid

perverse incentive for companies to externalize environmental costs. A company might weigh the cost of investing in a state-of-the-art tailings management system against the risk of a fine for non-compliance. If the potential fine is a fraction of the investment cost, the company is incentivized to ignore its environmental obligations. While the **MRC Act**⁴⁹ introduces a new penalty structure, it does not significantly alter the fundamental problem of low fines. The maximum fines for most offences, even in the new Act, are not high enough to act as a meaningful deterrent for a multi-billion-dollar enterprise. This weakness is compounded by the fact that the penalties for certain acts, such as illegal dumping or a major spill, are not proportionally severe. The legal framework fails to properly value the long-term, irreversible environmental damage that can result from a catastrophic event.

2.4.2. FRAGMENTATION OF AUTHORITY AND ENFORCEMENT

Despite the **MRC Act's**⁵⁰ attempt to consolidate power, a degree of fragmentation remains. The EMA is enforced by ZEMA, while the MRC Act is enforced by the Minerals Regulation Commission. Although the new Act mandates collaboration, there is still potential for a "silo" approach to enforcement. This can lead to jurisdictional conflicts, duplication of efforts, or, worse, a gap in accountability where each agency assumes the other is taking the lead. For example, in the event of a chemical spill from a mine, ZEMA would focus on the pollution and its impact on the environment, while the MRC might focus on whether the company breached its mining licence conditions. A lack of seamless integration and information sharing could lead to a less efficient and less punitive outcome. This fragmentation also means that a company might be subject to penalties from one agency but not the other, or that the overall penalties imposed are less than the sum of their parts.

⁴⁹Ibid

⁵⁰Minerals Regulation Commission (MRC) Act No. 14 of 2024

2.4.3. WEAK PROVISIONS FOR CRIMINAL AND PERSONAL LIABILITY

While the **MRC Act's**⁵¹ attempt to introduce personal liability for directors is a step in the right direction, the overall legal framework still lacks a strong foundation for criminal liability for severe environmental harm. Many environmental offences are treated as regulatory breaches rather than criminal acts. For a major environmental disaster that contaminates water sources and endangers human life, the current penalty structure might only result in a fine, rather than a prison sentence for the responsible individuals. This is a significant weakness. True deterrence comes not just from financial penalties but from the prospect of individual accountability. When directors and managers know they could face imprisonment for gross negligence leading to an environmental catastrophe, their incentives to prioritize environmental compliance increase dramatically. The current legal framework in Zambia, with its reliance on the "knowledge" of the director as a prerequisite for liability, makes it difficult to secure a conviction.

2.4.4. LACK OF SPECIFICITY IN ADDRESSING LONG-TERM DAMAGE

A major weakness in the penalty structures is their failure to adequately address the long-term, cumulative environmental damage caused by mining activities. Many penalties focus on a single act of non-compliance (e.g., a specific discharge) rather than the continuous, incremental degradation of the environment. Furthermore, the provisions for mine closure and rehabilitation, while present in both Acts, often lack sufficient detail and enforceability. The EPF is a good concept, but if a company is able to avoid or under-contribute to it, the state is left to deal with a polluted landscape long after the mine has closed. The penalties for such non-compliance are not strong enough to ensure that companies fulfill their long-term obligations, leaving future generations to bear the environmental and financial burden of cleanup.

2.5. CONCLUSION

Zambia's legal framework for the mining sector, as embodied in the **Environmental Management Act of 2011** and the **Minerals Regulation Commission Act of 2024**,

⁵¹Ibid

provides a foundational structure for environmental governance. However, as this chapter has detailed, a critical analysis of its penalty structures reveals significant weaknesses that limit its effectiveness. The penalties, particularly financial fines, are often too low to deter well-resourced corporations, creating a disincentive for environmental compliance. The fragmentation of enforcement, despite efforts at collaboration, and the absence of strong criminal and personal liability provisions further compound these issues. The result is a system where the costs of environmental degradation are not fully borne by the polluters but are instead externalized onto the environment and the public. To move towards a truly sustainable mining sector, it is essential that Zambia reforms its legal framework. The recommendations put forth in this chapter, including increasing fines, strengthening personal liability, improving enforcement coordination, and empowering affected communities are crucial steps towards creating a legal environment where environmental protection is not just a regulatory formality but a central pillar of corporate responsibility. Such reforms would not only safeguard Zambia's natural heritage but also foster a more equitable and sustainable model of economic development.

CHAPTER THREE

EXAMINING SOUTH AFRICA'S LEGAL FRAMEWORKS AND DRAWING LESSONS ON STRICTER PENALTIES AND REHABILITATION BONDS IN ZAMBIA IN ORDER TO PROTECT THE ENVIRONMENT.

3.0. INTRODUCTION

The protection and sustainable management of the environment are paramount to the social and economic well-being of a nation. As countries with significant mineral resource endowments, South Africa and Zambia face a common challenge: balancing the economic imperative of mining with the constitutional and moral obligation to protect the environment for present and future generations. South Africa's legal framework, particularly the **National Environmental Management Act (NEMA) of 1998**⁵² and the **Mineral and Petroleum Resources Development Act (MPRDA) of 2002**,⁵³ provides a robust and instructive model. This analysis, drawing lessons from these specific provisions, aims to explore how Zambia can strengthen its own environmental legislation, with a particular focus on stricter penalties and the implementation of effective rehabilitation bonds. This detailed examination will first dissect the core provisions of **NEMA**,⁵⁴ focusing on its principles and enforcement mechanisms, before turning to the **MPRDA's**⁵⁵ specific requirements for financial provision for rehabilitation

⁵²National Environmental Management Act No. 107 (NEMA) of 1998

⁵³Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

⁵⁴National Environmental Management Act No. 107 (NEMA) of 1998

⁵⁵Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

and its penal framework. Finally, it will synthesize these findings to propose a set of concrete lessons for Zambia, culminating in a comprehensive argument for a more stringent and effective legal regime to protect its environment.

3.1. PROCEDURES FOR CO-OPERATIVE GOVERNANCE

Section 11⁵⁶ of the National Environmental Management Act (NEMA) establishes a clear legal obligation for national and provincial environmental departments to prepare and submit Environmental Implementation Plans (EIPs). These plans serve as forward-looking instruments that articulate how departments intend to align their activities with environmental priorities. Importantly, the responsibility is not limited to departments traditionally tasked with environmental matters; rather, all national departments whose functions may have environmental impacts are required to engage in this process. By doing so, the law ensures that environmental stewardship becomes a collective responsibility across the entire machinery of government. In addition to EIPs, the law also mandates that every provincial department and municipality exercising functions that may affect the environment must prepare an Environmental Management Plan (EMP). EMPs are particularly significant at the provincial and municipal levels, where land use decisions, infrastructure development, and service delivery often have direct environmental consequences. The inclusion of local authorities in this requirement reflects the recognition that environmental challenges are not confined to the national sphere but manifest acutely at the community level. The EMPs, therefore, act as a bridge between high-level policy and on-the-ground implementation.

The purpose of both EIPs and EMPs is to embed environmental considerations directly into the planning and decision-making processes of all organs of state. This approach reflects a shift away from treating environmental protection as the exclusive domain of specialized ministries. Instead, environmental governance is mainstreamed, ensuring that development decisions in sectors such as energy, transport, mining, and agriculture all reflect the constitutional right to a healthy environment. This form of integration is crucial in addressing the interconnected nature of modern environmental problems,

⁵⁶Section 11 of the National Environmental Management Act No. 107 (NEMA) of 1998

such as climate change, biodiversity loss, and pollution. **Section 12**⁵⁷ further elaborates the objectives of these plans, making it clear that integration and alignment are at the heart of the framework. The plans are intended to “promote the integration of the environmental functions of the different organs of state,” which ensures that departments work collaboratively rather than in isolation. This provision fosters intergovernmental coordination and reduces duplication of effort, which has historically been a challenge in South Africa’s fragmented governance system. In addition, these plans are meant to serve as guidelines for land development, offering a structured reference point for both public and private decision-makers.

The alignment of EIPs and EMPs with the principles of NEMA is another critical objective outlined in **Section 12**.⁵⁸ The principles of NEMA emphasize sustainable development, equitable access to natural resources, and the need for environmental justice. By requiring consistency with these principles, the Act ensures that EIPs and EMPs are not mere bureaucratic exercises but tools that advance the constitutional mandate for environmental protection. In this way, the law creates a clear normative foundation for environmental planning, which helps prevent arbitrary or short-term decision-making. **Sections 13**⁵⁹ and **14**⁶⁰ go a step further by specifying the detailed content required in EIPs and EMPs. For instance, EIPs must set out the priorities and objectives of the department in relation to the environment. They must also indicate the norms and standards that apply, ensuring that departmental activities are benchmarked against measurable criteria. This requirement brings clarity and direction, making it possible to track whether departments are aligning their policies and actions with national environmental objectives. Without such detail, the risk of vague or symbolic commitments would undermine the credibility of the process.

In addition to setting objectives, the plans must outline the specific activities and processes that departments will undertake to achieve these objectives. This transforms the plans into practical instruments rather than abstract policy statements. For example,

⁵⁷Section 12 of the National Environmental Management Act No. 107 (NEMA) of 1998

⁵⁸Section 12 of the National Environmental Management Act No. 107 (NEMA) of 1998

⁵⁹Section 13 of the National Environmental Management Act No. 107 (NEMA) of 1998

⁶⁰Section 14 of the National Environmental Management Act No. 107 (NEMA) of 1998

a department of transport may include measures to reduce vehicle emissions, while a department of housing may commit to incorporating green building standards in new developments. Each department is thereby required to translate broad environmental principles into sector-specific actions, which creates accountability and facilitates tangible progress.

Finally, **Sections 13 and 14** require that the plans include performance indicators to monitor and evaluate progress. These indicators provide a framework for measuring success, enabling both government and civil society to hold institutions accountable. They also create opportunities for continuous learning and adaptation, since departments can assess whether their strategies are effective and adjust accordingly. The emphasis on measurable outcomes aligns with modern principles of results-based management and ensures that environmental governance in South Africa is evidence-driven. By embedding monitoring and evaluation within the planning process, NEMA closes the loop between planning, implementation, and accountability. While Chapter 3 does not directly impose penalties, its value for Zambia lies in its procedural strictness. By mandating integrated planning, it creates a structured environment where non-compliance is more easily identified. The failure of a government department to prepare and implement a plan as required by NEMA could itself be a basis for legal action by an environmental body or even private citizens. This proactive, preventative approach, which requires planning before a problem occurs, is a powerful lesson for any country seeking to strengthen its environmental framework.

3.2. PENALTIES AND ENFORCEMENT IN NEMA

To understand the full scope of NEMA's power, one must look beyond Chapter 3 to its provisions on compliance, enforcement, and penalties. NEMA's penal framework is multi-layered, combining criminal sanctions, civil liability, and administrative penalties.

CRIMINAL PROVISIONS AND SEVERE PENALTIES

NEMA, particularly in its **Chapter 7** (Compliance, Enforcement and Protection), provides for serious criminal consequences for environmental transgressions. **Section**

49A,⁶¹ for example, outlines various offences, including the failure to comply with an environmental authorization, the unlawful commencement of a listed activity, or the refusal to cooperate with an Environmental Management Inspector (EMI). The penalties are significant. Under **Section 49B**,⁶² a person convicted of an offence under NEMA can be liable to a fine of up to **R10 million (approximately \$550,000 USD)** or imprisonment for up to **10 years**, or both. The court may also impose an additional fine calculated on a daily basis for the duration of the non-compliance. What makes these penalties particularly effective is that they are not limited to the company itself. The Act provides for the personal liability of directors and managers. If a company commits an offence, and it is proved that a director, manager, or employee knowingly authorized, permitted, or failed to prevent the offence, they can be held personally liable and face the same severe fines and imprisonment. This provision is a powerful deterrent, as it targets the individuals responsible for decision-making, ensuring that the burden of compliance is not merely a financial calculation for a corporation.

3.3. ADMINISTRATIVE PENALTIES

In addition to criminal sanctions, the **National Environmental Management Act (NEMA)**,⁶³ together with its subsidiary legislation, equips regulatory authorities with the power to impose administrative penalties. This is a deliberate feature of South Africa's environmental governance framework, which recognizes that environmental violations can vary in severity and context. While criminal sanctions are appropriate for serious, intentional, or repeated breaches of environmental law, administrative penalties provide a more flexible and proportionate tool for addressing less severe infractions. This dual system ensures that enforcement is both robust and adaptable, balancing deterrence with efficiency.

A key example of this approach can be seen in the **National Environmental Management: Waste Act**, which falls under the broader NEMA framework. This Act empowers regulators to issue administrative fines for non-compliance with waste

⁶¹Section 49A of the National Environmental Management Act No. 107 (NEMA) of 1998

⁶²Section 49B of the National Environmental Management Act No. 107 (NEMA) of 1998

⁶³National Environmental Management Act No. 107 (NEMA) of 1998

management requirements. Such fines can be imposed without initiating criminal proceedings, making them a practical tool for dealing with minor or technical breaches such as failure to submit required waste reports or non-compliance with licensing conditions. By streamlining enforcement in this way, the Waste Act reduces unnecessary strain on the criminal justice system while still upholding environmental standards. The availability of administrative penalties has significant practical advantages. They allow regulators to respond swiftly to violations, thereby reducing the risk of ongoing environmental harm while a lengthy criminal case is pursued. Moreover, the certainty and consistency of fines enhance compliance by creating clear and predictable consequences for non-compliance. This not only deters potential offenders but also fosters a culture of accountability among businesses and individuals. Ultimately, the combination of criminal and administrative enforcement mechanisms reflects a modern regulatory philosophy, one that emphasizes proportionality, efficiency, and effectiveness in protecting the environment.

3.4. A FOCUS ON FINANCIAL GUARANTEES UNDER THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (MPRDA)

While NEMA provides the foundational legal principles, the **MPRDA**,⁶⁴ as a sector-specific law, applies these principles directly to mining and petroleum activities. Its provisions on financial provision and penalties are particularly relevant to this analysis, as they offer a clear model for ensuring that environmental remediation costs are not left to the state or the public.

FINANCIAL PROVISION FOR REHABILITATION

The **MPRDA**,⁶⁵ read together with the NEMA Financial Provisioning Regulations, establishes a strict, compulsory regime for environmental rehabilitation funds. **Section 41**⁶⁶ of the **MPRDA**⁶⁷ is the cornerstone of this system, requiring an applicant for a mining right or a holder of a right to "make financial provision for the rehabilitation or

⁶⁴Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

⁶⁵Ibid

⁶⁶Section 41 of the Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

⁶⁷Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

management of negative environmental impacts." This is not an optional requirement; it is a prerequisite for the granting of a right.

The NEMA Financial Provisioning Regulations, which superseded the **MPRDA's**⁶⁸ original regulations on this matter, provide the detailed mechanics of this system. They state that the financial provision must be sufficient to cover the costs of:

Annual rehabilitation: The ongoing, concurrent rehabilitation of mined areas during the operational life of the mine.

Final rehabilitation, decommissioning, and closure: The complete closure of the mine site at the end of its life, including the removal of all infrastructure and the remediation of all disturbed land.

Remediation of latent or residual environmental impacts: This is a crucial element. It covers long-term impacts that may only become apparent years after closure, such as acid mine drainage (AMD) or soil contamination.

The regulations specify that the financial provision must be determined by a detailed itemization of all required activities and their costs. The amount must be reviewed and adjusted annually to reflect inflation, changes in environmental conditions, or the progress of rehabilitation work. The funds must be provided by one or a combination of the following methods: a financial guarantee from a bank, a deposit into a trust fund, or cash deposits. The use of a trust fund or a financial guarantee ensures that the funds are ring-fenced and cannot be used for any other purpose by the mining company. This is a critical legal and financial safeguard.

MPRDA's Penal Provisions

The MPRDA reinforces the penal framework established by NEMA. In addition to the NEMA penalties, the **MPRDA** contains its own specific offences. For example, **Section 98**⁶⁹ of the **MPRDA** details a range of offences, including the illegal prospecting or mining of a mineral, or the failure to comply with a provision of the Act. **Section 99**⁷⁰

⁶⁸Ibid

⁶⁹Section 98 of the Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

⁷⁰Section 99 of the Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002

sets out the penalties for these offences, which are severe and include fines and imprisonment. The regulations also introduce a new set of offences, such as failing to provide funds for annual rehabilitation. The penalties for these specific offences can be up to **R10 million- or 10-years' imprisonment**.

3.5. DRAWING LESSONS FOR ZAMBIA, A FRAMEWORK FOR REFORM

Zambia, like South Africa, has a legal framework for environmental protection, anchored by the **Environmental Management Act (EMA) No. 12 of 2011**⁷¹ and the **Mines and Minerals Development Act**.⁷² However, a comparative analysis reveals several key areas where Zambia can draw lessons from South Africa's approach to stricter penalties and rehabilitation bonds to enhance its own framework.

LESSONS ON STRICTER PENALTIES

While Zambia's EMA and other sectoral laws do provide for penalties, there is an opportunity to make them more deterrent and consistently applied, drawing from South Africa's NEMA and MPRDA.

A. INCREASE THE QUANTUM OF FINES AND IMPRISONMENT

Section 99 of the Mineral and Petroleum Resources Development Act No. 28 (MPRDA) of 2002 which forms part of South Africa's legal framework sets a high bar with fines of up to R10 million and imprisonment of up to 10 years for environmental crimes. In contrast, while Zambia's EMA provides for fines and imprisonment, a review may show that the penalties, particularly for large-scale mining operations, are not a sufficient deterrent. Fines that are a fraction of a company's profits may be seen as a mere "cost of doing business." A key lesson for Zambia is to review and significantly increase the maximum fines to a level that is economically punitive and to expand the range of offences that carry custodial sentences. This would send a clear message that environmental degradation is a serious crime, not just a regulatory infraction.

⁷¹Environmental Management Act (EMA) No. 12 of 2011

⁷²Minerals Regulation Commission (MRC) Act No. 14 of 2024

B. EMPOWER ADMINISTRATIVE ENFORCEMENT

South Africa's use of both criminal and administrative penalties provides a valuable blueprint. Zambia's Zambia Environmental Management Agency (ZEMA) could be granted the power to impose significant administrative fines for certain offences without having to go through a lengthy criminal court process. This would enable faster, more consistent enforcement, particularly for non-compliance with license conditions or restoration orders. A clear legal framework would need to be established to ensure due process, with provisions for appeal to a competent authority or court.

LESSONS ON REHABILITATION BONDS AND FINANCIAL PROVISION

Zambia's legal framework requires financial provisions for environmental rehabilitation. However, a closer look at the mechanisms and enforcement of these bonds is necessary to draw lessons from South Africa's more stringent approach.

A. Implement a Mandatory, Detailed Financial Provisioning Regime

South Africa's system is not based on a one-time bond but a compulsory, ring-fenced financial provision that must be sufficient to cover all rehabilitation costs, from concurrent annual work to long-term post-closure remediation. Zambia could adopt this model by moving away from a single, static bond amount to a dynamic financial provision.

Detailed Costing: The financial provision should be based on a detailed itemization of all rehabilitation activities and their associated costs, as required by the **NEMA**⁷³ Financial Provisioning Regulations. This would prevent companies from underestimating their liabilities.

Annual Review and Adjustment: The amount of the financial provision should be reviewed annually and adjusted to reflect the progress of rehabilitation and any changes in costs. This ensures that the fund is always adequate.

Latent and Residual Impacts: A specific and separate portion of the financial provision must be set aside for long-term, post-closure impacts like acid mine drainage, which

⁷³National Environmental Management Act No. 107 (NEMA) of 1998

can persist for decades. This is a critical element often overlooked in less-developed legal frameworks.

B. Safeguard the Funds through Trust Funds or Financial Guarantees

South Africa's law mandates that financial provisions be held in a trust fund or as a financial guarantee from a reputable bank. Zambia could adopt this approach to ensure the funds are not co-mingled with the company's operating capital or other assets. A trust fund, administered by independent trustees, would ensure that the money is used solely for environmental rehabilitation and is protected from insolvency or bankruptcy proceedings.

C. Strengthen the "Duty of Care" Principle

NEMA, in its **Section 28**,⁷⁴ establishes a clear "duty of care" principle, requiring every person to take reasonable measures to prevent pollution or degradation from occurring. If it cannot be prevented, they must minimize it and remediate any harm caused. This principle is a powerful legal tool that provides a broad basis for legal action. Zambia's EMA has a similar principle of polluter pays, but it can be reinforced by a more explicit "duty of care" provision. This would ensure that companies have a continuous, proactive obligation to manage their environmental impacts, rather than merely reacting to a non-compliance notice.

3.6. CONCLUSION

South Africa's NEMA and MPRDA, though not without their own challenges, provide a sophisticated and comprehensive legal framework for environmental protection in a mineral-rich country. The lessons for Zambia are clear and actionable. By adopting a multi-pronged approach that combines significantly stricter penalties including personal liability for corporate officers with a robust, mandatory, and ring-fenced financial provisioning system for rehabilitation, Zambia can create a more effective and deterrent

⁷⁴Section 28 of the National Environmental Management Act No. 107 (NEMA) of 1998

legal regime. The emphasis on detailed, dynamic financial provisions, as seen in the NEMA Financial Provisioning Regulations, would ensure that the financial burden of environmental cleanup is placed squarely on the polluter, not the state. The procedural strictness of NEMA's Chapter 3, which mandates integrated planning and accountability, offers a model for proactive governance that could prevent environmental harm before it occurs.

Implementing these lessons would not only align Zambia's legal framework with international best practices but would also provide a stronger legal foundation for the sustainable and responsible development of its natural resources. The ultimate goal is to move beyond a reactive enforcement model and establish a system where environmental protection is a fundamental and non-negotiable component of all mining operations.

CHAPTER FOUR

BOTSWANA'S LEGAL FRAMEWORKS AND DRAWN LESSONS ON STRICTER PENALTIES AND REHABILITATION BONDS IN ZAMBIA IN ORDER TO PROTECT THE ENVIRONMENT.

4.0. INTRODUCTION

The protection of the environment is a global priority, and in Southern Africa, countries like Zambia and Botswana are at a critical juncture. Faced with the pressures of industrialization, mining activities, and climate change, the effectiveness of their legal frameworks in safeguarding natural resources and ecosystems is of paramount importance. While both nations have made significant strides in establishing environmental laws, a closer examination reveals disparities in the stringency of enforcement mechanisms, particularly concerning penalties and financial provisions for environmental rehabilitation. This chapter undertakes a detailed comparative analysis of the environmental legal frameworks of Botswana and Zambia. It is premised on the hypothesis that Botswana, through its more robust and punitive legal provisions, offers valuable lessons for Zambia, particularly in the areas of imposing stricter penalties for environmental offenses and mandating rehabilitation bonds.

The research will systematically dissect the relevant legislative instruments in both countries. For Botswana, the focus will be on **the Environmental Assessment Act of 2011**,⁷⁵ the **Mines and Minerals Act No. 17 of 1999 of Botswana**,⁷⁶ and other pertinent sectoral laws. For Zambia, the primary legal instrument under scrutiny will be the **Environmental Management Act of 2011**.⁷⁷ By examining the specific provisions of these laws, this chapter will identify the legislative gaps in Zambia's framework and propose concrete measures drawn from Botswana's experience. The objective is not merely to critique but to provide a constructive roadmap for Zambia to strengthen its

⁷⁵Environmental Assessment Act No. 11 of 2011 of Botswana

⁷⁶Mines and Minerals Act No. 17 of 1999 of Botswana

⁷⁷Environmental Management Act No. 12 of 2011

environmental jurisprudence, ensuring that the "polluter pays" principle is not just a theoretical concept but a vigorously enforced legal obligation. The chapter is structured to first provide a comprehensive overview of the legal landscapes of both countries, followed by a detailed comparative analysis, and concluding with a set of specific recommendations for legislative reform in Zambia.

4.1. BOTSWANA'S ENVIRONMENTAL LEGAL FRAMEWORK: A PROACTIVE AND PUNITIVE APPROACH

Botswana's environmental governance is underpinned by a multi-faceted legal framework designed to manage and mitigate environmental impacts across various sectors. While it lacks a single, overarching framework act, its approach is characterized by a strong emphasis on environmental impact assessments (EIAs) and a growing commitment to financial assurance for environmental remediation. This section will delve into the key legislative instruments and their provisions.

4.1.1. ENVIRONMENTAL ASSESSMENT ACT NO. 11 OF 2011 OF BOTSWANA

The **Environmental Assessment Act No. 11 of 2011 of Botswana** (EAA)⁷⁸ is a cornerstone of Botswana's environmental law. It mandates that all planned developmental activities likely to have a significant adverse environmental impact must first undergo an EIA. The Act is not merely a procedural tool; it is a mechanism for pre-emptively managing environmental risks and ensuring accountability. Crucially, the EAA establishes a clear chain of command and enforcement. **Section 4(2)**⁷⁹ of the Act stipulates that any person who undertakes or implements an activity in contravention of the Act commits an offence and is liable to a fine not exceeding P100,000 or a term of imprisonment not exceeding two years, or both. This provision immediately sets a high bar for compliance, sending a clear message that non-adherence will be met with serious consequences.

Furthermore, the Act introduces a critical concept: rehabilitation as a legal obligation. **Section 4(3)**⁸⁰ explicitly states that a person who contravenes the Act "shall rehabilitate the area affected by the adverse environmental impact." This moves beyond mere

⁷⁸Environmental Assessment Act No. 11 of 2011 of Botswana

⁷⁹Section 4(2) of the Environmental Assessment Act No. 11 of 2011 of Botswana

⁸⁰Section 4(3) of the Environmental Assessment Act No. 11 of 2011 of Botswana

punishment and introduces a restorative justice element, holding the polluter directly responsible for the damage they have caused. The Act provides a penalty for a failure to rehabilitate, with **Section 4(5)**⁸¹ imposing a fine of up to P15,000 or a term of imprisonment not exceeding two years, or both, for this specific offence. The inclusion of a continuing offence provision in **Section 4(6)**,⁸² which imposes a further fine of P2,000 for every day the contravention continues, is a powerful deterrent against protracted non-compliance. This tiered approach to penalties ensures that the financial and legal burden increases over time, making it economically unviable to ignore remediation orders. The EAA's focus on public participation is also notable. **Sections 7**⁸³ and **10**⁸⁴ mandate public review and hearings as part of the EIA process, empowering local communities and civil society to have a say in development projects that could affect their environment. This is a progressive measure that fosters transparency and democratic governance in environmental management.

4.2. THE MINES AND MINERALS ACT AND THE RISE OF REHABILITATION BONDS

The mining sector, as a major driver of economic growth in Botswana, presents unique environmental challenges. The **Mines and Minerals Act No. 17 of 1999 of Botswana**,⁸⁵ in conjunction with its amendments, has evolved to address these issues head-on, particularly through the introduction of financial provisions for mine rehabilitation. The Act, as amended, requires mining concession holders to provide financial assurance for the rehabilitation and closure of mine sites. This is a critical provision, as it prevents companies from simply abandoning a site once its resources are depleted, leaving a legacy of environmental degradation.

The provisions for financial assurance, often referred to as rehabilitation bonds, are designed to ensure that the funds for remediation are available regardless of the company's financial state at the time of closure. The Mines and Minerals (Amendment)

⁸¹Section 4(5) of the Environmental Assessment Act No. 11 of 2011 of Botswana

⁸²Section 4(6) of the Environmental Assessment Act No. 11 of 2011 of Botswana

⁸³Section 7 of the Environmental Assessment Act No. 11 of 2011 of Botswana

⁸⁴Section 10 of the Environmental Assessment Act No. 11 of 2011 of Botswana

⁸⁵Mines and Minerals Act No. 17 of 1999 of Botswana

Act of 2024 offers flexibility in the form of this provision, allowing it to be provided through:

- An environmental rehabilitation trust fund.
- A financial guarantee from a bank.
- Any other method as may be prescribed by the Minister.

This flexibility is a strength, as it allows for a practical application of the requirement. A key element is the establishment of environmental rehabilitation trust funds, which are legally separate from the mining company's assets. This ring-fencing of funds protects them from a company's insolvency or bankruptcy, ensuring that the government can access them to carry out rehabilitation work if the company fails to do so. The Director of Mines is empowered to issue a closure certificate only after being "satisfied that a concession area has been rehabilitated and reclaimed in accordance with the **Environmental Assessment Act**."⁸⁶ This ties the financial provision directly to the outcome of successful rehabilitation, making it a tangible and enforceable mechanism.

The **Mines and Minerals Act's**⁸⁷ emphasis on detailed rehabilitation and mine closure plans, as well as the periodic reporting on rehabilitation progress, demonstrates a proactive and continuous approach to environmental management. It recognizes that rehabilitation is not a one-off event but a phased, ongoing process that must be funded and monitored from the outset of a project.

4.3. OTHER KEY LEGISLATION AND PUNITIVE MEASURES

Botswana's legal framework is further strengthened by a number of other sectoral laws. The Integrated Waste Management Plan (IWMP) and related legislation impose severe penalties for waste-related offences. For instance, a person convicted of certain serious offences is liable to a fine not exceeding P10,000,000 or to imprisonment for a period not exceeding 10 years, or both. These penalties are determined with due consideration of "the severity of the offence in terms of its impact or potential impact on health, well-being, safety and the environment" and "the monetary or other benefits that accrued to the convicted person through the commission of the offence." This principle of

⁸⁶Environmental Assessment Act No. 11 of 2011 of Botswana

⁸⁷Mines and Minerals Act No. 17 of 1999 of Botswana

proportionality links the punishment directly to the scale of the harm and the illicit gain, making it a powerful deterrent.

In addition, the Water Act and other related acts contain provisions that prohibit the pollution, fouling, or poisoning of water, with penalties designed to enforce these prohibitions. While Botswana has been lauded for its conservation efforts, a UN expert has noted that a gap remains between policy and implementation, particularly concerning the rights of vulnerable populations. This highlights that while the legal framework is strong on paper, continuous efforts are needed to ensure equitable and effective enforcement across all communities.

4.4. ZAMBIA'S ENVIRONMENTAL LEGAL FRAMEWORK: THE CHALLENGE OF IMPLEMENTATION

Zambia's environmental legal framework is primarily anchored in the **Environmental Management Act No. 12 of 2011 (EMA)**.⁸⁸ The Act establishes the Zambia Environmental Management Agency (ZEMA) as the principal authority for environmental protection and pollution control. The EMA is a comprehensive piece of legislation that seeks to promote sustainable development and manage environmental impacts.

4.4.1. THE ENVIRONMENTAL MANAGEMENT ACT, 2011

The EMA provides for a number of critical mechanisms, including EIAs, licensing for various activities, and the regulation of hazardous waste. **Section 29(1)**,⁸⁹ for example, makes it an offence for a person to prepare an environmental assessment report without being registered with ZEMA, with a penalty of up to five hundred thousand penalty units or imprisonment for up to five years, or both. The Act also contains provisions for general penalties, where a person who contravenes a provision of the Act is liable to a fine not exceeding seven hundred thousand penalty units or imprisonment not exceeding seven years, or both.

While these penalty units seem substantial on paper, their effectiveness as a deterrent can be diminished by several factors. The value of a penalty unit must be regularly adjusted to keep pace with inflation and economic growth. If the penalty unit remains

⁸⁸Environmental Management Act No. 12 of 2011 (EMA)

⁸⁹Ibid

static or does not reflect the scale of the harm, it can be seen as merely a cost of doing business for large corporations. Furthermore, the EMA's provisions on enforcement can be undermined by an "implementation gap," where the legal provisions are not consistently or robustly applied. A number of reports have highlighted that despite having a comprehensive law, Zambia faces challenges in monitoring and ensuring compliance, leading to continued environmental degradation.

4.4.2. A GAP IN REHABILITATION BONDS

One of the most significant differences between the two legal frameworks is Zambia's relative lack of explicit, enforceable provisions for rehabilitation bonds. While the EMA empowers ZEMA to suspend or revoke a license if a holder fails to comply with the Act, it does not have the same explicit, legally-mandated financial assurance mechanisms for environmental rehabilitation as seen in Botswana. In the mining sector, this is a particularly glaring gap. The failure to require a financial provision that is ring-fenced from a company's other assets leaves the state and affected communities vulnerable. If a mining company goes bankrupt or simply ceases operations, the financial responsibility for cleaning up the site falls on the government, and by extension, the taxpayer. This is in direct contrast to the "polluter pays" principle.

While Zambia has made strides in green financing, such as the issuance of Green Bonds, these are a different class of financial instrument. Green bonds are used to raise funds for environmentally beneficial projects and are not a legal requirement for securing a mining or industrial license to cover potential environmental damage. They are an innovative financing tool but do not serve the same function as a rehabilitation bond, which is a form of financial guarantee. The lack of a mandatory and legally binding rehabilitation bond mechanism in Zambia's framework is a critical weakness that must be addressed.

4.5. DRAWING LESSONS FROM BOTSWANA: STRICTER PENALTIES AND REHABILITATION BONDS

A detailed comparison of the two legal frameworks reveals clear and actionable lessons that Zambia can draw from Botswana's approach. These lessons are not about simply

replicating laws but about adopting a more effective philosophy of environmental governance.

4.5.1. LESSONS ON STRICTER AND PROGRESSIVE PENALTIES

Zambia's EMA provides for a system of fines based on penalty units, which, while theoretically progressive, may not always be sufficient to deter large corporations. Botswana's framework, in contrast, offers a more tailored and punitive approach.

- **Proportionality and Deterrence:** Zambia can learn from Botswana's approach to making penalties proportional to the severity of the offence and the monetary benefits accrued. By explicitly linking fines to the "unlawful gain" of the offender, the law becomes a true deterrent. A major polluter should not be able to write off a fine as a simple business expense. Zambia should review its penalty unit system to ensure that fines are adjusted regularly and are set at a level that truly hurts the bottom line of a non-compliant company.
- **Progressive Fines:** Botswana's provision for a daily fine for a "continuing offence" (P2,000 per day) is a powerful tool that Zambia can adopt. This mechanism prevents companies from simply paying a one-time fine and then continuing to ignore environmental directives. It creates a continuous financial pressure that compels compliance. Zambia should consider amending its EMA to include a similar provision for a per-day fine for non-compliance with environmental directives, such as a clean-up order.
- **Restorative Justice:** The explicit legal requirement in Botswana's EAA for the offender to "rehabilitate the area affected" is a crucial lesson. Zambia's EMA provides for ZEMA to order clean-ups, but Botswana's approach makes rehabilitation an offence in itself if not carried out. This legal provision places a clear, unavoidable responsibility on the polluter to restore the environment, not just to pay a fine. Zambia should amend its EMA to make environmental rehabilitation a primary legal obligation of the offender, separate from and in addition to any fines.

4.5.2. LESSONS ON REHABILITATION BONDS

This is arguably the most significant area where Zambia can learn from Botswana. The absence of a mandatory, robust rehabilitation bond mechanism is a major vulnerability in Zambia's environmental legal framework, especially in the context of its burgeoning mining sector. Botswana's model provides a clear blueprint for reform.

- **Mandatory Financial Provision:** Zambia should amend its Environmental Management Act and the Mines and Minerals Development Act to make a mandatory financial provision for environmental rehabilitation a prerequisite for obtaining an operating license, particularly for large-scale projects like mining. This provision must be in a form that is legally protected from the company's financial distress.
- **Ring-Fencing Funds:** Zambia should establish a legal framework that allows for the creation of environmental trust funds for rehabilitation. These funds, once established, should be legally ring-fenced from the company's other assets and protected from claims by creditors in the event of insolvency. This is a critical provision that ensures the money is there when it is needed.
- **Independent Oversight:** The management of these funds should be subject to independent oversight. The use of a reputable third party or a government-appointed board to manage the trust fund ensures that the money is used solely for its intended purpose.
- **Periodic Recalculation:** Botswana's Mines and Minerals Act and its amendments provide for the "regular recalculation and updating" of financial provisions for mine closures. This is a vital lesson. Environmental rehabilitation costs can change over time due to inflation, new technologies, or the discovery of previously hidden contamination. The financial provision should not be a static figure set at the beginning of a project but should be regularly reviewed and adjusted to ensure it remains sufficient to cover all potential costs.

4.5.3. SPECIFIC PROVISIONS ZAMBIA CAN DRAW LESSONS FROM

To provide a clear roadmap for legislative reform, it is important to pinpoint specific provisions from Botswana's legal framework that can be directly applied to Zambia.

- **From Botswana's EAA, 2011, Section 4(3) and 4(5):** Zambia should introduce a new section into its Environmental Management Act that mirrors these provisions. The new section would explicitly state that any person who causes adverse environmental impact is legally obliged to rehabilitate the area. A separate, and significant, offence would then be created for the failure to carry out this rehabilitation. This is different from a mere clean-up order; it is a fundamental legal duty.
- **From Botswana's EAA, 2011, Section 4(6):** Zambia's EMA should be amended to include a "continuing offence" clause that imposes a daily fine for every day that a specific environmental directive is not complied with. This would be particularly effective for cases of illegal waste disposal or continued pollution after a notice to cease has been issued.
- **From Botswana's Mines and Minerals (Amendment) Act, 2024:** This is a crucial source of lessons. Zambia's Mines and Minerals Development Act and its EMA should be amended to introduce a mandatory requirement for a financial provision for mine rehabilitation and closure. This could be structured as an environmental trust fund or a bank guarantee. The key is to make it a mandatory, legally binding, and audited requirement for obtaining a mining license.
- **From Botswana's IWMP:** Zambia's legislation on waste management should adopt a similar principle of proportionality in its penalties, ensuring that fines are not only substantial but are also linked to the severity of the environmental harm and the financial gain of the offender.

4.6. CONCLUSION

This chapter has demonstrated that while both Botswana and Zambia have developed environmental legal frameworks, Botswana's approach to enforcement, particularly through penalties and financial provisions for rehabilitation, is more comprehensive and effective. Botswana has moved beyond the traditional "flat penalty" system by ensuring that penalties are proportionate to the harm caused and by embedding financial instruments that directly support environmental restoration. In contrast, Zambia's framework, while progressive on paper, still struggles with weak enforcement mechanisms and limited financial safeguards to guarantee environmental rehabilitation.

The comparison between the two countries highlights the urgent need for Zambia to recalibrate its environmental laws by adopting tailored, enforceable, and financially backed measures that go beyond symbolic deterrence.

The key lessons that emerge from Botswana's model are clear and pragmatic. Firstly, Zambia must move away from a one-size-fits-all penalty regime and instead implement a system that reflects the severity and scale of environmental harm. Secondly, the introduction of progressive daily fines for continuing offences would ensure that non-compliant companies face mounting financial pressure until corrective measures are taken, thereby reducing the prevalence of prolonged violations. Most importantly, the establishment of mandatory environmental rehabilitation bonds, funds set aside by companies before commencing operations would legally guarantee that resources are available for restoration, regardless of whether a company remains solvent in the future. These measures would strengthen the application of the "polluter pays" principle in Zambia by ensuring that private companies, rather than the government or taxpayers, bear the responsibility and cost of environmental clean-up.

Adopting these reforms would mark a significant turning point for Zambia's environmental governance. It would not only deter environmentally destructive practices but also compel businesses to integrate sustainability and environmental responsibility into their core strategies from the outset. Legislative reform, drawing on Botswana's effective provisions, is therefore not optional but necessary for Zambia to close its implementation gap and build a stronger, enforceable environmental legal framework. By embedding proportional penalties, daily fines, and rehabilitation bonds into law, Zambia would position itself to safeguard its natural heritage, protect communities from the consequences of environmental degradation, and secure a sustainable future for generations to come. This chapter thus serves as a call to action, urging policymakers to adopt and adapt these proven mechanisms into Zambia's environmental laws to ensure lasting impact and resilience.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0. GENERAL FINDING AND CONCLUSIONS

The examination of Zambia's mining legal frameworks reveals a significant disparity between the economic centrality of the sector and the legal mechanisms governing its environmental and social consequences. While the legislation purports to uphold the "polluter pays" principle and mandate environmental protection, the practical implementation is profoundly weak. The key finding is that Zambia's framework suffers from three critical, interconnected weaknesses: disproportionate and ineffective penalty structures, a failure to financially guarantee environmental rehabilitation (especially post-insolvency), and inadequate provisions for genuine community protection and participatory oversight. This analysis, informed by comparative lessons drawn from the more robust systems in South Africa and Botswana, concludes that the existing legislation fails to provide a credible deterrence against environmental degradation and social disruption. Realizing Zambia's duty to safeguard its environment and communities requires comprehensive legislative reform that embeds financial accountability and enhanced enforcement capacity.

5.1. SPECIFIC FINDINGS AND CONCLUSIONS

5.1.2. CHAPTER ONE

Chapter one established the context for this study by underscoring the vital, yet often conflicting, relationship between Zambia's reliance on mining and the state's constitutional duty to protect the environment. It identified the research gap: a lack of focused scrutiny on the structural deficiencies in Zambia's penalty mechanisms and environmental financial assurances. By articulating the need for a comparative analysis with South Africa and Botswana, the chapter successfully framed the research as an imperative search for actionable legislative and policy solutions to close the current implementation gap in Zambian mining law.

5.1.3. CHAPTER TWO

Zambia's legal framework for the mining sector, as embodied in the **Environmental Management Act of 2011**⁹⁰ and the **Minerals Regulation Commission Act of 2024**,⁹¹ provides a foundational structure for environmental governance. However, as this chapter has detailed, a critical analysis of its penalty structures reveals significant weaknesses that limit its effectiveness. The penalties, particularly financial fines, are often too low to deter well-resourced corporations, creating a disincentive for environmental compliance. The fragmentation of enforcement, despite efforts at collaboration, and the absence of strong criminal and personal liability provisions further compound these issues. The result is a system where the costs of environmental degradation are not fully borne by the polluters but are instead externalized onto the environment and the public. To move towards a truly sustainable mining sector, it is essential that Zambia reforms its legal framework. The recommendations put forth in this chapter, including increasing fines, strengthening personal liability, improving enforcement coordination, and empowering affected communities are crucial steps towards creating a legal environment where environmental protection is not just a regulatory formality but a central pillar of corporate responsibility. Such reforms would not only safeguard Zambia's natural heritage but also foster a more equitable and sustainable model of economic development.

5.1.4. CHAPTER THREE

South Africa's NEMA and MPRDA, though not without their own challenges, provide a sophisticated and comprehensive legal framework for environmental protection in a mineral-rich country. The lessons for Zambia are clear and actionable. By adopting a multi-pronged approach that combines significantly stricter penalties including personal liability for corporate officers with a robust, mandatory, and ring-fenced financial provisioning system for rehabilitation, Zambia can create a more effective and deterrent legal regime. The emphasis on detailed, dynamic financial provisions, as seen in the NEMA Financial Provisioning Regulations, would ensure that the financial burden of environmental cleanup is placed squarely on the polluter, not the state. The procedural

⁹⁰Environmental Management Act (EMA) No. 12 of 2011

⁹¹Minerals Regulation Commission (MRC) Act No. 14 of 2024

strictness of NEMA's Chapter 3, which mandates integrated planning and accountability, offers a model for proactive governance that could prevent environmental harm before it occurs. Implementing these lessons would not only align Zambia's legal framework with international best practices but would also provide a stronger legal foundation for the sustainable and responsible development of its natural resources. The ultimate goal is to move beyond a reactive enforcement model and establish a system where environmental protection is a fundamental and non-negotiable component of all mining operations.

5.1.5. CHAPTER FOUR

This chapter has demonstrated that while both Botswana and Zambia have developed environmental legal frameworks, Botswana's approach to enforcement, particularly through penalties and financial provisions for rehabilitation, is more comprehensive and effective. Botswana has moved beyond the traditional "flat penalty" system by ensuring that penalties are proportionate to the harm caused and by embedding financial instruments that directly support environmental restoration. In contrast, Zambia's framework, while progressive on paper, still struggles with weak enforcement mechanisms and limited financial safeguards to guarantee environmental rehabilitation. The comparison between the two countries highlights the urgent need for Zambia to recalibrate its environmental laws by adopting tailored, enforceable, and financially backed measures that go beyond symbolic deterrence.

The key lessons that emerge from Botswana's model are clear and pragmatic. Firstly, Zambia must move away from a one-size-fits-all penalty regime and instead implement a system that reflects the severity and scale of environmental harm. Secondly, the introduction of progressive daily fines for continuing offences would ensure that non-compliant companies face mounting financial pressure until corrective measures are taken, thereby reducing the prevalence of prolonged violations. Most importantly, the establishment of mandatory environmental rehabilitation bonds, funds set aside by companies before commencing operations would legally guarantee that resources are available for restoration, regardless of whether a company remains solvent in the future. These measures would strengthen the application of the "polluter pays" principle in

Zambia by ensuring that private companies, rather than the government or taxpayers, bear the responsibility and cost of environmental clean-up.

Adopting these reforms would mark a significant turning point for Zambia's environmental governance. It would not only deter environmentally destructive practices but also compel businesses to integrate sustainability and environmental responsibility into their core strategies from the outset. Legislative reform, drawing on Botswana's effective provisions, is therefore not optional but necessary for Zambia to close its implementation gap and build a stronger, enforceable environmental legal framework. By embedding proportional penalties, daily fines, and rehabilitation bonds into law, Zambia would position itself to safeguard its natural heritage, protect communities from the consequences of environmental degradation, and secure a sustainable future for generations to come. This chapter thus serves as a call to action, urging policymakers to adopt and adapt these proven mechanisms into Zambia's environmental laws to ensure lasting impact and resilience.

5.2. RECOMMENDATIONS

Based on the findings and the comparative analysis, the following legislative and policy recommendations are critical for strengthening Zambia's mining governance:

1. **Introduce Proportional and Daily Default Penalties:** Amend the relevant legislation (e.g., Environmental Management Act and Mines and Minerals Development Act) to replace fixed fines with **proportional, revenue-based penalties** and introduce **daily compounding fines** for every day a violation continues, effectively mirroring the deterrence mechanisms successfully employed by Botswana.
2. **Establish Mandatory Environmental Rehabilitation Bonds:** Legislate the requirement for all large-scale mining operations to set up and maintain fully funded, independently-managed **Environmental Rehabilitation Bonds (ERBs)**. These bonds must be sized to cover the total estimated cost of mine closure and ecological restoration, guaranteeing that these funds are ring-fenced and accessible regardless of the operator's financial status.

3. **Strengthen Enforcement Capacity and Inter-Agency Coordination:** Invest significantly in building the technical and legal capacity of the Zambia Environmental Management Agency (ZEMA) to conduct thorough investigations and successfully prosecute complex corporate environmental crimes. Furthermore, a formal, legislated mechanism for joint planning and information sharing between ZEMA and the Ministry of Mines must be established to prevent regulatory gaps.
4. **Enact Provisions for Free, Prior, and Informed Consent (FPIC):** Legislate explicit requirements for mining companies to obtain the **Free, Prior, and Informed Consent (FPIC)** of affected communities before project approval, and empower community-based organizations with the resources and legal standing to monitor compliance and seek redress.
5. **Economic Modelling of Environmental Rehabilitation Bonds:** A detailed quantitative study is required to model the most efficient and practical structure for mandatory Environmental Rehabilitation Bonds in the Zambian context, including analysis of various financial instruments (e.g., trust funds, self-guarantee mechanisms) and optimal regulatory oversight.
6. **Assessment of Daily Penalty Impact:** A comprehensive policy analysis to simulate the likely behavioural impact of introducing daily default fines on the speed of regulatory compliance within Zambia's mining industry and its effect on litigation rates.
7. **Socio-Legal Study on FPIC in Mining:** A field-based, socio-legal study to assess the challenges and opportunities of implementing the **Free, Prior, and Informed Consent (FPIC)** principle within Zambia's customary land tenure system, drawing specifically on practical lessons learned from South African jurisprudence on community land rights.



UNIVERSITY
OF LUSAKA
Pursuing the Quality Education, Our Endless Future

SCHOOL OF LAW
L400B / Dissertation II – DIRECTED RESEARCH (OBLIGATORY ESSAY)
RESEARCH CLEARANCE FORM

NAME: MSANGO FEBBY

STUDENT NUMBER: LLB21211554

SUPERVISOR: MR K.G CHISANGA

TOPIC: TO EXAMINE THE WEAKNESSES IN ZAMBIA'S MINING LEGAL FRAMEWORKS WITH REGARDS TO PENALTY STRUCTURES, ENVIRONMENTAL SAFEGUARDS, AND COMMUNITY PROTECTIONS: LESSONS DRAWN FROM SOUTH AFRICA AND BOTSWANA.

Stage	Supervisor's Comments	Supervisor's Signature & Date	Student's Signature & Date
Research Proposal	Nil	21.9.25 	 12/09/2025
Chapter 1 – Introduction	Nil	21.11.25 	 12/09/2025
Chapter 2 –	Nil		 03/11/2025
Chapter 3 –	Nil		 03/11/2025
Chapter 4 –	Nil		 13/11/2025
Chapter 5 – Conclusions & Recommendations	Nil		 13/11/2025
Abstract, Table of Contents, Bibliography and Appendices	Nil		 13/11/2025

First Draft	Grammar and numbering		13/11/2025
Second Draft	N/A		 13/11/2025
Final Draft	Approved		 13/11/2025

1.97%

SIMILARITY OVERALL

1.31%

POTENTIALLY AI

SCANNED ON: 12 NOV 2025, 6:53 PM

Similarity report

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

 IDENTICAL
0.42%

 CHANGED TEXT
1.54%

AI Detector Results

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

 LIKELY AI
0.00%

 HIGHLY LIKELY AI
1.31%

Report #29929085

SCHOOL OF LAW TO EXAMINE THE WEAKNESSES IN ZAMBIA'S
MINING LEGAL FRAMEWORKS WITH REGARDS TO PENALTY STRUCTURES,
ENVIRONMENTAL SAFEGUARDS, AND COMMUNITY PROTECTIONS: LESSONS
DRAWN FROM SOUTH AFRICA AND BOTSWANA. By: MSANGO FEBBY LLB
21211554 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 Contents
DECLARATIONiiSUPERVISOR RECOMMENDATIONiiiDEDICATIONivACKNOWLEDGMENTSvTABLE
OF STATUTESviCHAPTER ONE11.0. INTRODUCTION11.1. BACKGROUND OF THE
STUDY11.2. STATEMENT OF THE PROBLEM21. 3. RESEARCH OBJECTIVES41. 4.
RESEARCH QUESTIONS41. 5. SIGNIFICANCE OF THE STUDY41. 6. SCOPE OF
THE STUDY51. 7. LITERATURE REVIEW61. 8. METHODOLOGY. 111.9. ETHICAL
CONSIDERATION.121.10. CHAPTER OUTLINE.122.5 Recommendations for
Strengthening the Legal Framework13CHAPTER TWO15AN ANALYSIS OF
ENVIRONMENTAL PENALTY STRUCTURES IN ZAMBIA'S MINING
LEGISLATION152.0. INTRODUCTION152.1. PROVISIONS AND PENALTIES UNDER
THE ENVIRONMENTAL MANAGEMENT ACT NO. 12 OF 2011162.1.1. CORE
ENVIRONMENTAL PROVISIONS162.1.2. ANALYSIS OF EMA'S PENALTY
STRUCTURE17CRIMINAL PENALTIES AND FINES182.2. ENVIRONMENTAL
PROVISIONS UNDER THE MINERALS REGULATION COMMISSION ACT NO.
14 OF 2024192.2.1. ENVIRONMENTAL MANDATES OF THE MINERALS