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An assessment of the efficacy of South Africa's legal framework in addressing key challenges related to liability for mine closure and rehabilitation

By

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ABSTRACT

Similar to most jurisdictions with a long history of mining, the South African government and ultimately the citizens are bearing the financial brand and associated problems of past mining activities. It is trite that the mining industry has the ability to potentially translate non-renewable natural resources of a nation into mineral wealth through exploration and exploitation, making a significant contribution towards sustainable economic and social development. Metaphorically comparable to a double-edged sword, the same industry can disruptively impose adverse social and economic impacts while dramatically degrading the environment.

The aim of this study is to assess the efficacy of South Africa's legal framework in addressing rehabilitation and mine closure liability. The dissertation will focus on three key challenges, namely, socio-economic aspects, financial provision as well as cumulative and integrated impacts. Mine-affected communities continue to suffer from the adverse environmental impacts harmful to their health and wellbeing as a result of mining operations. When a mine closes, communities are often left socially and economically devastated due to loss of employment and other socio-economic benefits that mines provided.

The shortcomings and implications of the financial provision requirement for rehabilitation will be assessed as well as the lack of closure strategies to address cumulative and integrated impacts that lead to long lasting negative social, economic and environmental impacts. Overarching, the study intends to contribute to the current discourse on the regulation of rehabilitation and mine closure liability and recommend solutions that can be viable in mitigating the challenges and risks associated with this process in South Africa.

LIST OF ACRONYMS

AMD: Acid Mine Drainage
CSMI: Centre for Sustainability in Mining and Industry
CSR: Corporate Social Responsibility
DME: Department of Minerals and Energy
DMR: Department of Mineral Resources
DPMC: Departmental Policy on Mine Closure
EMPr: Environmental Management Programme
ERR: Environmental Risk Report
GDP: Gross Domestic Product
HRC: Human Rights Commission
IEM: Integrated Environmental Management
MCSA: Minerals Council South Africa
MCM: Mine Closure Model
MCP: Mine Closure Plan
RBM: Rule-Based Model
WWF-SA: World Wide Fund – South Africa

KEYWORDS

Legal, Environment, Mine, Closure, Rehabilitation, Socio-economic, Community

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CHAPTER 1: INTRODUCTION

1.1. Introduction and background

Similar to most jurisdictions with a long history of mining, the South African government and ultimately the citizens are bearing the financial brand and associated problems of past mining activities. Resultant costs are estimated at R100 billion for rehabilitation of approximately 6000 derelict and ownerless mines which will require 800 years to rehabilitate.[1] It is trite that the mining industry has the ability to potentially translate non-renewable natural resources of a nation into mineral wealth through exploration and exploitation, making a significant contribution towards sustainable economic and social development. Metaphorically comparable to a double-edged sword, the same industry can disruptively impose adverse social and economic impacts while dramatically degrading the environment. The various impacts can be witnessed throughout the life-cycle of extracting natural resources within the value chain.

Of particular relevance to this study is rehabilitation and mine closure liability emanating from responsibilities and obligations often set out in the legal framework of mining jurisdictions. Due to the inability of ore resources to be infinitely extracted, mine closure and its related post-closure characteristics is regarded as part of the life-cycle of mining operations.[2] Swart opines that before the advent of mining legislation, *"…mining companies used irresponsible mining methods with no regard for protecting the environment and often shirked their responsibility towards environmental rehabilitation by leaving an area unrehabilitated prior to their being liquidated or leaving the country"*.[3] With the formal mining sector being more than a century old in South Africa and the country still heavily reliant on the industry for wealth creation and sustainable development,[4] the adverse cumulative effects of mining to date are arguably beyond comprehension in the absence of reliable empirical data.

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[1] E.S. van Druten & M.C. Bekker "Towards an inclusive model to address unsuccessful mine closure in South Africa" (2017) 117 *The Journal of the Southern African Institute of Mining and Metallurgy* 485.

[2] J. Stacey *et al.* "The socio-economic aspect of mine closure and sustainable development: literature overview and lessons for the socio-economic aspects of closure-report 1" (2010) 110 *The Journal of the Southern African Institute of Mining and Metallurgy* 379.

[3] E. Swart "The South African legislative framework for mine closure" (2003) *The Journal of the Southern African Institute of Mining and Metallurgy* 489.

[4] *Ibid.*

The concept of mine closure broadly refers to mines shutting down and ceasing operations as a result of various factors. According to Saxena the primary goal of mine closure is reclamation of *"mine site for other well defined economic land uses while maintaining a balance between the environmental management and performance, mine economics and post-mining liability of the mining companies"*.[5] The concept is considered to be multi-faceted, requiring actions to be taken in relation to mining employees, the surrounding natural environment, socio-economic aspects, the physical infrastructure of a mine and financial implications.[6] It is important to note that although most mining operations are viable for around 30 years,[7] there are various factors that can lead to pre-mature or unexpected mine closure due to economic, political, community or ore resource problems and/or other considerations. With this in mind, a continuous balance between socio-economic aspects, integrated environmental management and sustainable development is critical, with care not to attribute too much attention to pure economic gains.

The historical exclusion or lack of comprehensive mine closure provisions in mineral regulatory regimes of most developing and developed mining jurisdictions is well documented. In South Africa for instance, before 1956 mine closure is said to have been governed by insufficient and non-comprehensive environmental regulations in addition to not being subjected to legislative requirements.[8] Due to the dynamic nature of the industry and evolving interests and demands of various stakeholders locally and internationally, the importance of compliance with environmental and sustainable development practice in mine closure is increasingly being acknowledged as an essential business imperative.

To stay abreast of the best practices within the mining industry and to address the environmental and social impacts as well as associated financial burden emanating from past mining legacies and to prevent same from recurring, South Africa's legislature has made great effort to regulate mine closure and rehabilitation. The current legislative

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[5] N.C. Saxena (2008) "Mine Closure" *India: Scientific Publishers* 1.

[6] C. Dixon "Mine Closure from a legal perspective: Do the provisions of the New Mineral and Petroleum Resources Development Act and draft regulations make closure legally attainable?" (2003) *The Journal of the Southern African Institute of Mining and Metallurgy* 483.

[7] R.D. Krause & L.G. Snyman "Rehabilitation and Mine Closure Liability: An assessment of the Accountability of the System to Communities" 1.

[8] *Supra* n2 at 485.

framework is underpinned by section 24 of the Constitution of the Republic of South Africa, 1996 ('Constitution') which generally proclaims a healthy environment by, *inter alia*, entitling every citizen to an environment that does not harm their health or wellbeing. Despite multiple and arguably comprehensive policy and legislation addressing sustainability in mining, comprehensive mine closure coverage is still questionable and inadequate.

1.2 Aims and objectives

The aim of this study is to assess the efficacy of South Africa's legal framework in addressing rehabilitation and mine closure liability. The paper will focus on three key challenges that require decisive actions from multiple stakeholders to ensure successful and sustainable mine closure. The objectives are as follows:

i) Exposition of socio-economic aspects pertaining to mine closure.
ii) Discussion of inadequate closure strategies pertaining to cumulative and integrated impacts.
iii) Assessment of the financial provision requirement for rehabilitation.
iv) Discussion of shortfalls, gaps and ambiguities within the legal framework for mine closure in South Africa.
v) Make recommendations of potential solutions for South Africa.

1.3. The research problem

Despite efforts by the legislature to put mechanisms in place, successful and sustainable mine closure remains very problematic in South Africa, often resulting in serious financial implications for stakeholders as well as adverse impacts and long-term residual effects that that encroach on the safety, health, social and environmental well-being of affected communities. The primary question this dissertation seek to answer is how efficacious is the South African legal framework in addressing the key challenges pertaining to liability for mine closure and rehabilitation? The secondary questions that the dissertation will seek to answer are as follows:

i) What are the key challenges pertaining to mine closure and rehabilitation?
ii) What are the main laws regulating mine closure and rehabilitation in South Africa and their shortcomings?
iii) What are the key lessons that South Africa can draw from best practice for mine closure and rehabilitation?

1.4. Proposed methodology and limitations

The research is qualitative and relies on socio-legal research and empirical methods to effectively assess the efficacy of the South African legislative and regulatory framework related to rehabilitation and mine closure liability. The identified limitation to this study is the varying extent and complexity of impacts associated with different classes of mineral resources within the broader mining and minerals spectrum. For instance, the legal framework for mine closure might adequately address issues in coal mining while displaying gaps and prove to be insufficient in gold mining. To mitigate, the paper will strive to address aspects common within the broad mining industry and focus on more prominent minerals in the country such as gold, platinum and coal. The potential limitation is the uncertain and unpredictable nature of mining policy and legislative framework in South Africa at the moment due to the current social, economic and political climate. As an example, the Mineral and Petroleum Resources Development Amendment Bill ('MPRDA bill') still in discussion might propose changes which can potentially lead to my assessment and conclusions being different. The analyses will therefore be restricted to the regulatory framework in operation at the time of writing this paper.

1.5. Relevance of the study

There is mounting policy and legislative pressure on mines to effectively close despite many challenges presented by the legal framework. The study intends to contribute to the current discourse on the regulation of rehabilitation and mine closure liability and propose solutions based on best practice that can be viable in mitigating the challenges and risks associated with this process in South Africa.

1.6. Chapter outline

Chapter 1: Provides background and sets out the aim and objectives of the study as well as the research problem to be explored and assessed.

Chapter 2: Contextualizes key challenges pertaining to mine closure liability, particularly, socio-economic aspects, cumulative and integrated impacts and financial provision requirement for mine closure.

Chapter 3: Overview of policy and legislative framework regulating mine closure in South Africa.

Chapter 4: Assessment and discussion of the mine closure legal framework with the focus on challenges, shortcomings and ambiguities.

Chapter 5: Conclusion and recommendations.

CHAPTER 2: KEY CHALLENGES PERTAINING TO MINE CLOSURE LIABILITY

2.1. Introduction

There are numerous challenges associated with mine closure and due to this, mine closure and rehabilitation are rarely considered sexy topics within the mining industry. Recalling what transpired at the Progressive Mine Forum inaugural event in Toronto where approximately half of the audience left the event when mine closure was about to be discussed, Alisha Hiyate remarks that *"if you want to clear a room of miners, there are few better ways than to raise the topic of mine closure"*.[9] The remark unfortunately holds true globally and South Africa is no exception. In South Africa, there are more than five thousand mines that are ownerless and abandoned whilst there are numerous other mines that are placed on a 'care and maintenance' plan as a result of the government having not issued the mining houses with closure certificates.[10] The legacy of past mining activities is, however, being addressed with observers stating that more attention is starting to be given to mine closure and rehabilitation by regulators both domestically and internationally due to more public awareness and the economic cycle seeing more closures that are not planned.[11]

Thanks to public awareness and increasing studies, more light is shinned on challenges related to mine closure and rehabilitation, particularly, the key challenges such as socio-economic aspects, financial provision as well as cumulative and integrated impacts. Mining houses, regulators, government, communities and other stakeholders are no longer able to continue neglecting this costly part of mining. Regardless of the attention, communities continue to suffer from the adverse environmental impacts harmful to their health and wellbeing as a result of mining operations. This is of course an infringement of the communities' constitutional rights as guaranteed in section 24 of the Constitution. Additionally, mine closure poses devastating social and economic effects on communities that are reliant on mines for employment and socio-economic upliftment through Corporate Social

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[9] A. Hiyate "Mine Closure: Why mine closure matters – and why it gets ignored" (2018) *Canadian Mining Journal* 29.

[10] M. Milaras *et al.* "Mine closure in South Africa: A survey of current professional thinking and practice" (2014) 1 in I.M. Weiersbye *et al.* (eds) (2014) "Mine closure 2014" *Sandton: ReseachGate*.

[11] Centre for Environmental Rights (CER) "Mine closure and rehabilitation: The hangover that follows the mining party" (May 2016) < https://cer.org.za/news/mine-closure-and-rehabilitation-the-hangover-that-follows-the-mining-party> Accessed on 22 August 2018.

Responsibility (CSR) projects, *inter alia*. This critical challenge will be discussed in more detail later in the chapter.

The financial costs of closure and rehabilitation are also immense and are often left to the government and the society to bear despite the country's legal framework setting out the requirement for financial provision by mining companies. This chapter will proceed to assess the challenges and implications of the financial provision requirement for rehabilitation. The lack of closure strategies or poorly planned strategies to address cumulative and integrated impacts can lead to long lasting negative social, economic and environmental impacts, therefore, cumulative and integrated impacts will be the third and final key challenge to be discussed under this chapter. In essence, this section of the dissertation seeks to contextualize the aforesaid key challenges pertaining to mine closure and rehabilitation.

2.2. Socio-economic aspects related to mine closure

It is important to note that socio-economic issues pertaining to mine closure are not easy to navigate due to their complex and multifaceted nature. According to a local study, problems that are encountered at closure include but are not limited to, miscommunication over issues such as plans of mining companies, community expectations, government policy and expectations, the ability of mining companies to deliver on these expectations as well as the *"psychological stressors on all individuals and groups relating to closure"*.[12] Haglund submits that the driver of social tensions usually witnessed around resource projects is the fundamental mismatch between 'local expectations' and the benefits that mining houses can actually deliver.[13] The above significantly points to the necessity of effective communication among multiple stakeholders. Sustainable mine closure is attainable and if appropriate closure strategies are put in place and accordingly enforced, mines can become engines for sustainable development beyond their life cycle and this is possible through minimisation of adverse impacts and optimization of long-term 'after-use benefits'.[14]

Literature captures the sentiments that the devastating degradation of the environment far outlasts the life cycle of a mine and that this results in mine legacies posing threats to the health, safety and wellbeing of communities on a daily basis.[15] Acid mine drainage ('AMD') is

[12] *Ibid* n2.

[13] D. Haglund "Blessing or curse? The rise of mineral dependence among low- and middle-income countries" (2011) *Oxford Policy Management Report* 23.

[14] *Supra* n2 at 380.

[15] *Supra* n7 at 2.

a substantial predicament that affects water resources and is intensifying daily in South Africa. AMD is a process that basically occurs when sulphides - particularly pyrite minerals - comes into contact with oxygenated water.[16] This process is especially problematic for indigent communities that often rely on contaminated streams for water supply in order to utilize for various reasons, including consumption. In South Africa, the generation of AMD is anticipated to persist for centuries to come, for instance, *"within the Witwatersrand area alone, there are huge pyrite-bearing tailings (6 billion tonnes over 400 km2) that are expected to continue releasing acidic water that leaches iron and sulphides to the environment"*.[17] Basically, this means that communities will continue to experience and suffer from the consequent serious health hazards in the future as a result of not only AMD, but other hazardous contaminants such as uranium, cobalt, arsenic, *inter alia*. Figure 1 below shows potential areas likely to be affected by AMD in South Africa.[18]

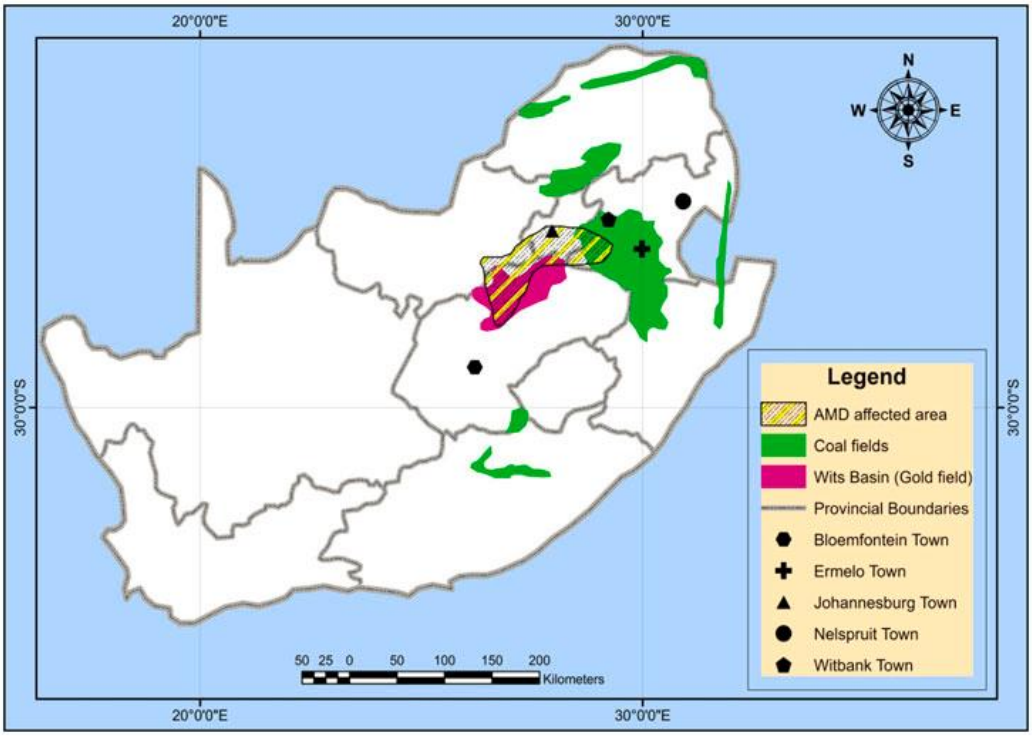

Figure 1: *The potential areas of Acid Mine Drainage in South Africa.*

[16] S.E. Mhlongo & F. Amponsah-Dacosta "A review of problems and solutions of abandoned mines in South Africa" (2016) *International Journal of Mining, Reclamation and Environment* 281.

[17] See *id*.

[18] *Supra* n16 at 282. The image/figure is modified from the 2010 Report to the inter-ministerial committee of Acid Mine Drainage.

Furthermore, upon the closure phase mine-affected communities often find themselves devastated due to significant unemployment rates and related impacts such as low community morale and higher crime rates. It is trite that mining companies are critical for both national and local economies and that when a mine comes to the region there is a large population influx that often leads to pressure on local infrastructure, increased crime rate and illegal activities, shortages of housing, *inter alia*. The immigration results from the desire and need of the people to improve the quality of their lives by moving to mining communities where they can find employment and/or generate income through the supply of goods and services to mining companies.

Poor or lack of proper mine closure strategies poses a significant threat to the safety of communities and mine workers losing their livelihoods leads to illegal miners (called 'Zama Zamas' in South Africa) occupying the abandoned or derelict mine sites.[19] Illegal mining is a major problem in South Africa where Zama Zamas are often trapped and die in mine shafts, exacerbating poverty for their families and leaving a void and sense of hopelessness in their communities. Other major socio-economic challenges include loss of social license to operate by mining companies, increasing community resistance as well as the impact on local governments and their inability to sustain the infrastructure brought by mining companies.[20] These challenges can be addressed through the creation of a stronger sense of shared value by mining companies embracing modes of engagement that are collaborative through working closely with mine-affected communities and the local government to invest in mine operations.[21]

2.3. Financial provision requirement

The closure and rehabilitation phase of a life cycle of a mine is a very costly exercise for mining companies and a cost that has historically been put on the shoulders of the government and essentially taxpayers in relation to abandoned, derelict and ownerless mines. According to Mhlongo & Amponsah-Dacosta, the cost estimated for reclamation of mines that are currently listed as abandoned in South Africa goes up to R30 billion and this is merely a contingent figure that is based on what was incurred in 2007 and 2008 when rehabilitating asbestos

[19] *Supra* n7 at 2.

[20] Due to word limitations, these issues are merely highlighted in this dissertation and can be further studied by readers for comprehensive research.

[21] Deloitte Touche Tohmatsu Limited (DTTL) "Tracking the trends 2018: The top 10 issues shaping mining in the year ahead" (2018) *Canada: Deloitte Design Studio*.

mines.[22] The Minerals Council South Africa ('MCSA'), previously known as the Chamber of Mines of South Africa, opines that in certain circumstances the rehabilitation costs can account for up to 10% of the total mining costs.[23] The South African legislature has accordingly imposed regulatory requirement for financial provision so that mining companies can take responsibility and be liable for the management of mine closure and rehabilitation. This crucial provision is intended to mitigate lasting adverse impacts and *"to manage or limit the risk of the Government (i.e. the taxpayer) inheriting the environmental liability for decommissioned mines that have not been correctly closed or rehabilitated"*.[24]

The Mineral and Petroleum Resources Development Act, 28 of 2002 ('MPRDA') is the main piece of legislation regulating mine closure and rehabilitation liability in South Africa.[25] In terms of section 43 (1) of MPRDA, prospective and/or mineral rights holders *"remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance with the conditions of the environmental authorisation and the management and sustainable closure thereof, notwithstanding the issuing of a closure certificate by the Minister in terms of this Act to the holder or owner concerned".* A holder is required to make a financial provision for the rehabilitation or the management of adverse environmental impacts and essentially adhere to the polluter pays principle enshrined in the Constitution.

The financial provision for closure is not specified by legislation but through the guideline document that was developed by the then Department of Minerals and Energy ('DME') which requires those who apply for exploration and/or exploitation rights to make financial provision for rehabilitation or management of adverse environmental impacts as a condition for approving the applicant's Environmental Management Programme ('EMPr').[26]

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[22] *Supra* n16 at 286.

[23] Chamber of Mines of South Africa & Coaltech Research Association "Guidelines for the rehabilitation of mined land" (2007) 8.

[24] D.J. Grant-Stuart "Alternative Approaches for Providing Financial Provision for Mine Rehabilitation and Closure" (2008) 137 in A.B. Fourie *et al.* (eds) (2008) "Mine closure 2008" *Perth: Australian Centre for Geomechanics*.

[25] This Act is applicable as amended by the Mineral and Petroleum Resources Development Amendment Act (MPRDAA), 49 of 2008.

[26] *Supra* n23 at 138. The DME has changed its title to the Department of Mineral Resources (DMR) however the MPRDA and its Regulations still refer to DME. This dissertation will use both titles interchangeably.

It is important to note that these DME guidelines are not a legal requirement despite their comprehensiveness.[27] Regulations 53 and 54 of the MPRDA ('Regulations') also stipulates financial provision requirement and sets out the process that applicants and holders must comply with.[28]

Regulation 53 and the DME guidelines provides a number of methods for mining companies to meet the cost of rehabilitation and closure. The financial vehicle can be an approved trust fund dedicated for rehabilitation and closure; a direct deposit into an account specified by the DME's Director-General; a financial guarantee from an approved financial institution or a registered South African bank or any other bank guaranteeing the financial provision pertaining to the Environmental Management Programme (EMPr) and finally, any other method with the approval of the Director-General of the DME.[29] In terms of section 54 (1) of the Regulations, the quantum of the financial provision will be determined from time to time in accordance with *"The Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision Provided by a Mine"* dated January 2005 and originally published on the 23rd of April 2004. Additionally, the quantum of the financial provision must be updated and reviewed on an annual basis by the holder after assessing the environmental liability.

There is a number of models utilized for rehabilitation and mine closure costing, however, the well-known approaches are Mine Closure Model ('MCM') and Rule-Based Model ('RBM') where the former describes the systematic manner in which mine closure and rehabilitation can be carried out based on the principles of project management and the latter describes the *"methodology for determination of the quantum for financial provision"*.[30] According to Mhlongo & Amponsah-Dacosta, *"The minimum requirements for acceptable cost estimation methods are that it includes a quantified detail of rehabilitation work and that should include costs against each line item, subtotals and total costs as well as the schedule of unit costs"*.[31] The financial provision requirement has its own shortcomings and challenges associated with it will be discussed in later chapters.

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[27] *Ibid* n23.

[28] Mineral and Petroleum Resources Development Regulations published under GN R 527 of 23 April 2004 ('Regulation').

[29] Regulation 53.

[30] *Supra* n16 at 285.

[31] *Supra* n16 at 285-286.

2.4. Inadequate closure strategies pertaining to cumulative impacts

"No mine can close independently of its neighbours – there is a need to rethink the kind of tools that we use to manage impacts. If a mine closes prematurely, that mine has impacts on its neighbours; mines cannot have a stand-alone closure plan".[32] The MCSA correctly made the aforementioned remark in its submission to the Human Rights Commission ('HRC') that encapsulates the crux of this subsection as one of the key challenges in the regulation of mine closure and rehabilitation obligation, particularly, in relation to regional closure planning or strategies. Before progressing, it is crucial to note that these regional closure strategies are not meant to replace the mine closure plans of individual mines but are there to merely provide a high-level framework for individual mining houses to conform to so as to strategically address regional environmental aspects.[33] According to *Raiter et. al.*, cumulative impacts refer to *"the sum of individual impacts that alone are considered negligible, but accumulate over space and/or time and are so numerous that they are significant when considered in totality"*.[34] South Africa is one of the old mining jurisdictions and has experienced situations where, particularly within the Witwatersrand Goldfields area, the closure of a single mine within the region resulted in other mines not being able to close sustainably due to the interconnectedness of the underground voids.[35]

Overarching, van Tonder submits that *"large complexes of mines within a single catchment area may have a cumulative impact on their shared environment in such a manner that it is difficult or even impossible to apportion liabilities to a particular mine after years of operations and the resultant downstream environmental degradation"*.[36] In recognition of the fact that poor or lack of cumulative and integrated mine closure strategies can lead to adverse environmental

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[32] Quotation extracted by C. Digby "Mine Closure & Rehabilitation: From Dereliction to Accountability?" (2016) *Centre for Sustainability in Mining and Industry* 17 from The South African Human Rights Commission "Investigative Hearings on Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa" Report.

[33] D.M. van Tonder *et al.* "South Africa's Challenges Pertaining to Mine Closure - The Concept of Regional Mining and Closure Strategies" (2008) 90 in A.B. Fourie et al. (eds) (2008) "Mine closure 2008" *Perth: Australian Centre for Geomechanics.*

[34] K.G. Raiter *et. al.* "Under the radar: mitigating enigmatic ecological impacts" (2014) 29 Trends in Ecology & Evolution 636-637.

[35] *Id*.

[36] *Ibid* n31.

and socio-economic impacts, the South African legislature through the National Environmental Management Act, 107 of 1998 (hereinafter 'NEMA') dedicated chapter 5 to Integrated Environmental Management ('IEM'), which stipulates the general objectives of, *inter alia*, identifying, predicting and evaluating the *"actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximizing benefits, and promoting compliance with the principles of environmental management…"*. The other crucial objectives of IEM pertains to ensuring that public participation is effective and appropriate as well as assurance of environmental attributes in management and decisions that may significantly impact the public's environment.[37] There is a concept of cradle-to-grave that shall be referred to throughout the dissertation, for this purpose the concept emerges where van Druten & Bekker explains that there has to be planning and execution of mine closure prior to the commencement of physical mining activities and that these operations may continue until the mine cycle terminates, which is the final closure and rehabilitation of a mine.[38]

2.5. Conclusion

There are many challenges associated with mine closure and rehabilitation in South Africa, however, the country is far from unique in the challenges it faces. The key challenges discussed above - socio-economic aspects, financial provision and cumulative and integrated aspects – have shown that the cost of mine closure and rehabilitation is immense and significant for all parties involved. The communities are affected as far as their health, safety and wellbeing is concerned. This often results from past mining legacies where mining companies have shirked their rehabilitation and closure responsibilities by abandoning the mines to detriment of the communities' health and safety. We have seen that mine closure also disrupts the livelihoods of communities through job losses and loss of other benefits that mining houses used to provide. Cumulative impacts leads to long-lasting social, economic and environmental effects. These effects along with mine integration often leads to a situation where closure of a single mine within the region results in other mines not being able to close sustainably due to the interconnectedness of the underground voids.

As indicated above, the government through policy and legislative frameworks require mining houses to set aside financial provision in order to rehabilitate disturbed lands and also ensure that the mine closure is successful and sustainable. This provision is necessary to ensure that

[37] Sections 2 (d) and (e) of NEMA.

[38] *Supra* n1 at 486.

the polluter (*i.e.* mines) pays for the restoration of the land to its 'natural' state and to mitigate and manage environmental impacts. History through mining legacies has shown that the cost of rehabilitation is significant and the responsibility to rehabilitate fell on the government and ultimately the citizens through taxes. The financial provision to rehabilitate is also very costly for mining companies, however, with appropriate pre-mining planning and continuous rehabilitation, this cost can end up being far less than it might have been should rehabilitation and closure be left up until the last minute when the mine is near its end of life.

CHAPTER 3: OVERVIEW OF POLICY AND LEGISLATIVE FRAMEWORK REGULATING MINE CLOSURE AND REHABILITATION IN SOUTH AFRICA

3.1. Introduction

Due to the increasing global discourse around sustainability in mining, the issue of environmental rehabilitation for abandoned and decommissioned mines has been subjected to greater scrutiny in recent decades.[39] Following global trends, South Africa has promulgated stringent measures to tighten the legal framework regulating rehabilitation and mine closure. Krause & Snyman opine that South Africa compares positively to foreign jurisdictions pertaining to planning for rehabilitation and implementation of obligations that are imposed on mining houses.[40] This positive comparison to other mining jurisdictions is, however, not without fault as it appears to be difficult for the South African government to issue closure certificates to mining companies in order to absolve them of any social, environmental and economical responsibilities.

The fact that the country's economy is so heavily reliant on the mining industry is also not helping. For instance, 8.8% and 10% were, respectively, directly and indirectly injected into our country's Gross Domestic Product ('GDP') by the mining industry while creating millions of jobs and contributing towards tax in 2009.[41] Such staggering figures can be problematic when the mining industry gets shaken and jobs are lost. In this regard, it becomes empirical for the legislature to promulgate laws that will ensure protection for its citizens and the economy. This chapter will first look at the historical background for legal framework dealing with rehabilitation and mine closure, move on to discuss the common law aspects and constitutional provisions related to mine closure on the basis that all laws are subjected to the Constitution, finally, there will be an overview of the current legal framework regulating rehabilitation and mine closure.

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[39] J. Gilchrist & N. Holtzhausen "The challenge of mining rehabilitation" (2015) <http://www.oldmutual.co.za/old-mutual-investment-group/insights/magazines/tomorrow-2015/the-challenge-of-mining-rehabilitation> Accessed on 22 May 2018.

[40] *Supra* n7 at 2.

[41] E. van der Schyff "South African mineral law: A historical overview of the State's regulatory power regarding the exploitation of minerals" (2012) 64 *New Contree* 131.

3.2. Historical background

Legislative interventions for addressing mine closure and general environmental issues related to mines has existed in South Africa for many years and reviewed from time to time in order to address the challenges associated with mine closure.[42] However, earlier legislation such as the Mines and Works Act 27 of 1956 focused on 'surface rehabilitation' and primarily emphasized economic gains and neglected the environmental management and rehabilitation related to mining.[43] Consequently, mining houses were only required to comply with the bare minimum requirements for environmental management and rehabilitation, employing an approach that was reactive rather than proactive.[44] To illustrate, the Mines and Works Act required the holder of a mining license to only produce a basic rehabilitation plan and to fence the concerned area in order to issue a closure certificate.[45]

Following the non-cumbersome legal requirements stipulated in Act 27 of 1956, the Minerals Act 50 of 1991 was promulgated to address the adverse environmental impacts resulting from mining operations. The legislation introduced much stricter requirements and requires mining companies to adhere to and apply sound environmental principles. Although stricter, the latter legislation has more limitations than its successor. According to Swart, the latter Act *"provides statutory requirements enforcing environmental protection, the management of environmental impacts and the rehabilitation of the affected environment of prospecting and mining in South Africa".*[46] The applicant for prospecting and/or mining right has to substantiate and show that they are capable of mining responsibly and that they have the financial means to do by submitting an Environmental Management Programme (EMPr) which contains a Mine Closure Plan ('MCP'), *inter alia*.[47] Section 38 of the Minerals Act requires the prospecting or mining right holder to rehabilitate the concerned surface land in accordance with the EMPr that is approved in terms of section 39 and for the rehabilitation to form an integral part of mining activities throughout all the phases of mining, *e.g.* construction, operation and closure.

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[42] *Supra* n31 at 88.

[43] *Ibid* n3.

[44] *Id.*

[45] *Supra* n31 at 88.

[46] *Supra* n3 at 490.

[47] *Supra* n6 at 483.

All aspects of closure such as socio-economic aspects have to be covered by the MCP and not just the environmental issues. The Departmental Policy on Mine Closure (DPMC) which deals with planning for closure was developed by the Department of Minerals and Energy following the implementation of the Minerals Act.[48] The DPMC is one of the policies that provides guidance as to what needs to be covered in the MCP due to this not being specified by legislation (*i.e.* Minerals Act). In terms of section 12 of the Minerals Act, the holder will remain liable for responsible mine closure and rehabilitation up until they get issued with a closure certificate that will then free them from any further responsibility and commitments. *"As a means to this end, and as far as environmental matters are concerned, an unconditional certificate in terms of section 12 of the Minerals Act, could be issued to a mining concern after adequate arrangements (which could include financial provision and/or the assumption of responsibility by a third party) have been made and agreed to in the EMP or closure plan to ensure acceptable post-closure management and maintenance of the rehabilitated mining area".*[49] The discussion of the historical background of regulation for mine closure and rehabilitation is certainty a moving discourse. The next segment will give an overview of the current regulatory framework relating to mine closure.

3.3. Common Law and the Constitution of South Africa

The Constitution is the supreme law in South Africa, therefore, all laws including those regulating rehabilitation and mine closure must be interpreted in a manner consistent with the spirit, object and purport contained in the bill of rights. Section 24 of the Constitution enshrines the right to environmental protection and states that:

> *"Everyone has the right:-*
> *(a) to an environment that is not harmful to their health or well-being; and*
> *(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:-*
> *i. prevent pollution and other ecological degradation;*
> *ii. promote conservation; and*
> *iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

[48] *Supra* n31 at 89.

[49] *Supra* n6 at 484. The EMP abbreviation should be read as EMPr for purposes of consistency in this paper.

The Supreme Court of Appeal has stated that the inclusion of environmental rights as a fundamental human right in the Constitution means the administrative process that underlies the legal operations pertaining to rehabilitation and mine closure has to give environmental considerations the appropriate acknowledgement and respect.[50] The other implication of section 24 is that any citizen of the Republic of South Africa can claim damages as a result of sustaining harm from mining related activities and the claim can be directed towards the mine and/or its directors, and once a mine has closed the liability can also be attributed to the shareholders of the mine based on company law.[51]

In terms of common law, Swart submits that a claim based on pollution that comes from a mine that is already closed has a three year prescription period save for closed mines that continue to be sources of pollution.[52] This means that a community that continues to be affected by pollution long after a mine has shut down its doors can seek various relief from court, including, damages, interdict as well as judicial review of any decision and/or act or omission by an official or an organ of State.[53] Swart who is an expert on the issue says that nuisance, the aquilian action, property rights and administrative law are some of the causes of action that a claim can be based on.[54] Unfortunately, in cases where a mine has been abandoned and the owners cannot be located, it means that the State would have to assume liability and this often results in communities having to struggle for many years before finding a relief. Due to the appalling number of abandoned mines (observers quote a figure of approximately 6000), it becomes apparent that the South African government is unable, at least not in the foreseeable future, to settle such a huge bill.

To the credit of the legislature though, great strides have been made to ensure that environmental and minerals legislation effectively and adequately addresses the issue of mine closure and rehabilitation, most importantly, to ensure that these critical processes are carried out sustainably. To that effect, there are two critical legislation that will form the basis of the next discussion, namely, the National Environmental Management Act 107 of 1998 ('NEMA'), as well as the Minerals and Petroleum Resources Development Act 28 of 2002 ('MPRDA').

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[50] *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and others* 1999(2) SA 709 (SCA).

[51] *Ibid* n43.

[52] *Id*.

[53] *Ibid* n43.

[54] *Id*.

There are other legal frameworks that are relevant for the regulation of mine closure, however, detailed exposition of such legislation goes beyond the scope of this dissertation.[55]

3.4. Current legislative framework

3.4.1. National Environmental Management Act 107 of 1998

NEMA is one of the praised legislations in South Africa due to its comprehensiveness, implementation of best practice principles, *inter alia*. NEMA is the legislative framework that provides the general principles and procedures for sustainable development and sets out national norms and standards for integrated environmental management.[56] Section 2 (4) (c) of NEMA provides that "*environmental justice should be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.*" Through the integration of environmental, social and economic aspects into 'planning, implementation, closure and post-closure management' of exploration and exploitation processes, section 37 of the MPRDA, 2002 reaffirms the sustainable development principles expressed in section 2 of NEMA and other generally accepted principles for sustainable development.[57] References to relevant provisions of NEMA will be made during the following discussion of the MPRDA and its associated Regulations due to the interconnectedness of the two legislations and to avoid repetition.

3.4.2. The Mineral and Petroleum Resources Development Act 28 of 2002 and its associated Regulations

The fundamental legislation that regulates the mining sector in South Africa is the MPRDA although consideration of other policies and legal frameworks is still crucial. One of the objects of the MPRDA is to ensure that the mineral and petroleum resources of the Republic

[55] Such legislation include the National Water Act 36 of 1998 which purports to ensure the protection, utilization, development, conservation, management and control of the country's water resources. The Nuclear Energy Act of 1999 requires mining companies to comply with radiological requirement before the issuing of a closure certificate. The Atmospheric Pollution Prevention Act of 1965 aims to curb and control dust pollution (see *Supra* n3 at 491-492).

[56] Section 24 of NEMA, 1998.

[57] *Supra* n3 at 492.

are developed in a manner that is orderly and ecologically sustainable while ensuring the promotion of justifiable social and economic development, thereby giving effect to section 24 of the Constitution.[58] This legislation is considered to be a milestone in the transformation of the industry as it provides a 'holistic cradle-to-grave approach' for exploration and exploitation of mineral resources by exhaustively considering the social, economic and environmental costs of achieving sustainable development of mineral resources in the Republic.[59] Compared to its predecessor (*i.e.* Minerals Act), the MPRDA and its Regulations are said to be more comprehensive and detailed to effectively and efficiently regulate mine closure and rehabilitation.[60]

Any person who applies for prospecting rights is required to simultaneously apply for an environmental authorisation with the Regional Manager who must accept such an application after the requirements set out in section 16 (1) (a) to (c) have been met; no other person holds any right/permit for the same mineral and land; and where no prior application for a right/permit has been accepted, however, remains to be granted or refused for the same mineral and land.[61] Relevant environmental reports required in terms of Chapter 5 of NEMA (*i.e.* EMPr) must be submitted within 60 days of the applicant receiving notice of acceptance from the Regional Manager.[62] Another important provision to note is section 16 (4) (b) that requires the right/permit applicant to consult with the "landowner, lawful occupier and any interested and affected party" in a prescribed manner and to additionally include such consultation in the 'relevant' environmental reports. Regulation 52 related to MPRDA require the EMPr to contain the closure and environmental objectives.

Section 22 of MPRDA is the provision dealing with the application for mining rights and its wording is similar to section 17 that regulates the application for prospecting rights. The main difference between the aforementioned provisions is that with regards to application for mining rights, the relevant environmental reports required in terms of Chapter 5 of NEMA must be submitted within 180 days after the applicant receives notice of acceptance from the Regional Manager and the environmental impact assessments and the EMPr are approved in terms of section 39 of the same Act. Regulation 51 in this case is the one that requires closure and environmental objectives to be covered in the EMPr. Section 23 of MPRDA stipulates the key

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58 Section 2 (h) of MPRDA, 2002.

59 *Ibid* n54.

60 *Supra* n22 at 130.

61 Section 16 (1) and (2) of MPRDA, 2002.

62 Section 16 (4) (a) of MPRDA, 2002.

considerations by the DMR Minister when granting a mining right and these include but is not limited to whether:

> *"(a) the mineral can be mined optimally in accordance with the mining work programme;*
> *(b) the applicant has access to financial resources and has the technical ability to conduct the proposed mining operation optimally;*
> *(d) the mining will not result in unacceptable pollution, ecological degradation or damage to the environment;*
> *(c) the financing plan is compatible with the intended mining operation and the duration thereof;*
> *(e) the applicant has provided for the prescribed social and labour plan."*

In light of the above, it becomes clear that the MPRDA and its related regulations requires the applicants for prospecting and/or mining rights to have plans and commit to dealing with rehabilitation and mine closure issues prior to the beginning of mining activities and before any of the rights to explore and/or exploit mineral resources can be granted or authorised. Regulation 56 which is in line with section 23 requires right holders to ensure that closure process starts at the commencement of the mining operations and continues throughout the life of the operation; require the identification and quantification of residual and possible latent environmental impacts; require the right holder to rehabilitate the land to its natural state or to a predetermined and agreed standard of land use which conforms with the concept of sustainable development as far as is practicable, *inter alia*.

The holder of a right must apply for a closure certificate upon the lapsing, abandonment, cancellation, cessation and relinquishment of a right/permit or upon the completion of the closure plan to which the right/permit relate.[63] Section 43(4) requires the closure certificate to be made within 180 days of the occurrence of the events above (*i.e.* cessation). In terms of Regulation 57, an application for a closure certificate must be accompanied by an Environmental Risk Report (ERR). In terms of section 43 (2) a holder may make a written application to the DMR Minister for the transfer of environmental liabilities and responsibilities contemplated in section 43 (1) of the MPRDA to a third party. The MPRDA is not very strong with regards to regulation of cumulative and integrated effects related to rehabilitation and

[63] Section 43 (3) of MPRDA.

mine closure, therefore, this study will rely mainly on NEMA as well as other information sources such as the Department of Environmental Affairs and Tourism document on cumulative effects.

Section 43 (6) of MPRDA stipulates that a portion of the financial provision must be returned to the holder upon the issue of a closure certificate by the Minister when he/she deems it appropriate. The very same section empowers the Minister to retain any portion of such financial provision for 'latent and residual safety, health or environmental impact' which may emerge in the future. In effect, section 43 (6) makes provision for mining companies to financially settle any residual and/or latent environmental impacts that may emerge later on and minimizes the financial liability that the government may have to incur after the mine has been absolved of its environmental responsibilities and liability. It is crucial to note that financial provision Regulations (both under NEMA and MPRDA) have been subjected to scrutiny and as a result, the National Environmental Management Act 107 of 1998 *Financial Provisioning Regulations* 2015 GNR1147 GG 39425 ('2015 NEMA Regulations') which were promulgated on 20 November 2015 are currently being reviewed by multiple stakeholders and will come into effect on 19 February 2019 due to the outcry of holders regarding the limited timeframes.[64]

3.5. Conclusion

Based on the discussion above, we have seen that the centre legislation in South Africa regulating the minerals industry, particularly, mine closure and rehabilitation is the MPRDA and its Regulations. The history behind mine closure liability and rehabilitation has shown that a lot of progress has been made since 1956 when the Mine and Works Act was in force and only required mining houses to comply with the bare minimum requirements. Additionally, it was highlighted that the Constitution as the supreme law of the country underpins environmental protection as a fundamental human right and mandates all other laws that regulates closure and rehabilitation to be in compliance with section 24 of the Constitution. Other legislation such as the Atmospheric Pollution Prevention Act and the National Water Act were not critically assessed, however, these and other legislation and policy documents remain crucial when considering and interpreting the provisions of the MPRDA and its Regulations. The financial provision requirement remains under critique and review by

[64] P. Parker & C. Stevens "Financial Provisioning Regulations, 2017" (2017) <https://www.werksmans.com> Accessed on 03 October 2018.

stakeholders, we remain to see whether the DMR succeeds in February 2019 after intense consultations with stakeholders in effecting amendments to the 2015 NEMA Regulations.

Despite the draft financial provisioning amendments being closely gazed upon, the MPRDA Amendment Bill is a big monster that has been stuck in the National Council of Provinces (NCoP) for months on end. The extensively discussed bill since 2013 has been troubling the mining industry for years now due to the uncertainty that accompanies it. According to BusinessDay, the current DMR Minister Gwede Mantashe has informed the parliament's mineral resources portfolio committee on Wednesday the 22nd of August 2018 that him and his Department the DMR, are of the view that the MPRDA Bill should be withdrawn in order to allow the MPRDA to govern the mining industry in its present form.[65] These and a whole lot of amendments that take too long to effect or to be agreed upon often create a lot of anxiety among investors and other stakeholders although this time most stakeholders are relieved to hear the Minister's perspective and consideration. Out of the discussion, I guess we can all agree on the dynamic nature of South African legislative framework and perhaps the need for more certainty.

[65] L. Ensor "Mantashe wants to axe long-delayed MPRDA Amendment Bill" (2018) <https://www.businesslive.co.za/bd/national/2018-08-22-mantashe-wants-to-axe-mineral-and-petroleum-resources-development-amendment-bill/ > Accessed on 03 October 2018.

CHAPTER 4: ASSESSMENT AND DISCUSSION OF THE MINE CLOSURE LEGAL FRAMEWORK WITH THE FOCUS ON CHALLENGES, SHORTCOMINGS AND AMBIGUITIES

4.1. Introduction

As indicated above, mining operations poses severe threats to the environment, safety, health, well-being and livelihoods of communities in which they operate. The effects often last for decades and can also affect the national and local economies negatively. There is consensus that such impacts must be prevented and where not possible, they should be mitigated as early as humanly possible. The government, mining companies, communities and other stakeholders have a responsibility to work together in ensuring that rehabilitation and closure are carried out sustainably to the benefit of everyone. Our country's legislature is constantly evolving to ensure better closure and rehabilitation laws, as well as to keep abreast of international best practice. Unfortunately, this does not mean that our legal framework is perfect. There are gaps, uncertainties and some ambiguous that have been identified and continue to contribute towards unsuccessful closures. It is common cause that in South Africa currently, the issue of closure certificates is incredibly scarce, in fact, van Druten & Bekker declares formal mine closure an 'elusive undertaking'.[66]

The question that remains is whether the legal framework regulating rehabilitation and mine closure in South Africa has the ability to produce the intended results, in other words, how efficacious is the regulatory framework in ensuring that challenges related to closure are being effectively and efficiently addressed so as to attain successful and sustainable closure and rehabilitation? An assessment of the shortcomings, gaps and ambiguities of the mine closure and rehabilitation legal framework in relation to the aforementioned key challenges will hopefully provide answers to the posed question. It should be noted that the study seeks to identify key relevant provisions for detailed exposition under the following sub-headings, socio- economic aspects, financial provision requirement and cumulative impacts. The main purpose of the restriction is to make the enquiry more meaningful for discussion.

[66] *Supra* n1 at 485.

4.2. Socio-economic aspects: shortcomings, gaps and ambiguities in legal framework

Communities residing within mining areas are often illiterate, indigent and disempowered, this alone puts them at a disadvantaged position as one of the many stakeholders for mining companies. According to Hoadley & Limpitlaw, such communities often lack the knowledge of the potential impacts they can sustain from mining operations and the benefits they can derive as they lack experience with large development projects.[67] Although the MPRDA and its Regulations require applicants and holders of mineral rights/permits to consult with affected and interested parties such as local communities during the initial planning phase where mines compile and submit their EMPr, there is no prescribed criteria of how these consultations should manifest. The regulations lack clarity around the procedural rights of communities, they do not specify legal requirements setting out the form of the consultations (*i.e.* oral and/or verbal comments, public meeting and/or meetings with community representatives *etc*.), they do not specify the type of information that mining houses must furnish and do not specify what would constitute adequate notice.[68] *"Consultation with the community on rehabilitation is often highly sporadic, with a selective number of representatives, and is characterised by highly limited information sharing with the community"*.[69] The lack of direction by the MPRDA and its Regulations leads to uncertainty and inconsistencies in how various mining companies deal with the issue of consultation.

Sections 43 (2) of the MPRDA allows holders to transfer their environmental liabilities and responsibilities contained in the EMPr to third parties and Regulation 59 sets out qualifications of such third parties. These provisions are comprehensive and puts relevant measures in place. However, it is still not clear whether a qualified third party would become a holder for the purposes of the Act and therefore be bound as a holder would be.[70] The concern that Dixon raises is that the definition of 'qualified person' does not cover section 45 requirements that deal with the power the Minister has to recover costs in the event of urgent remedial measures.[71] The contention brought forward is that the onerous nature of section 45 requirements suggests that the intention is not to permit the transfer of its liabilities under

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[67] E.M. Hoadley & D Limpitlaw "Preparation for Closure – Community Engagement and Readiness Starting with Exploration" (2008) 845 in A.B. Fourie et al. (eds) (2008) "Mine closure 2008" *Perth: Australian Centre for Geomechanics.*

[68] *Supra* n7 at 6.

[69] *Supra* n7 at 2.

[70] *Supra* n6 at 486.

[71] *Id*.

normal circumstances where a mine or a portion of it is purchased by another entity.[72] The other problem is that some junior mining companies that purchase major mining operations from larger companies towards the end of life of mine often lack the capacity, expertise and resources to undertake large-scale rehabilitation and this may result in them going bankrupt, leading to the mine being abandoned.[73]

The uncertainty and confusion around some of the provisions of MPRDA and its Regulations lies in lack of definitions for critical aspects. For instance, the definitions of 'practicable', 'environmental risk report' and 'closure plan' are not provided for. The implication is that a holder or applicant is left to subjectively determine what these terms mean, which often results in greater uncertainty, unpredictability and inconsistencies.

4.3. Financial provision requirement: shortcomings, gaps and ambiguities in legal framework

As highlighted above, the issue of financial provision requirement in South Africa has only come under scrutiny in recent decades due to the adoption of the principles of sustainable development as well as the government and multiple stakeholders acting pro-actively to address the issue of mine closure and rehabilitation. For instance, the Minerals Council South Africa and Coaltech Research Association formed a joint initiative to formulate *'Guidelines for the rehabilitation of mined land'* by compiling information and using existing knowledge provided by various South African companies, the guideline also discusses financial provision. There has been a lot of uncertainty regarding financial provision requirement, equally so, there has been a lot of policy and legislative effort to try eliminate these uncertainties. The regulation of the financial provision in the MPRDA and its Regulations proved to be insufficient and basic. However, there are other mechanisms such as the DMR guidelines and NEMA Regulations that are much more comprehensive and efficient.

There have been concerted efforts from other key stakeholders such as the World Wide Fund - South Africa (WWF-SA) which commissioned a study in 2012 with the aim of critically assessing the processes surrounding the determination of financial provisions for rehabilitation and mine closure.[74] The study focused on the estimation and efficacy of financial

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[72] *Id*.

[73] *Ibid* n67.

[74] H. van Zyl *et.al.* "Rehabilitation and Closure in South African Mining: Discussion Document on Challenges and Recommended Improvements (Summary)" (2012) *World Wide Fund South Africa Report Series* 3.

provisions with a view to highlight some challenges and make recommendations for improvements.[75] Furthermore, the study sought to investigate the types of financial instruments that may be used by mining houses for financial provisions, the protection of the financial provisions against claims of other creditors as well as the manner in which financial provisions are reported.[76]

With regards to the estimation and efficacy of financial provisions, the study looked at the 2005 DMR Guidelines and highlighted areas of concern. The guidelines were found to be generic and therefore incapable of dealing with all situations pertaining to financial provisions and mine closure.[77] The other limitations included the guidelines' exclusion of conditions that are site-specific; their neglect to cater for some sectors of the mining industry such as subsistence mining; the significant under-estimations of adequate financial provisions due to master rates not being adjusted for inflation as well as lack of publicly available independent reviews leading to undermined estimations of financial provisions.[78]

Krause & Snyman also exposed some gaps and uncertainties in the legal framework that regulates financial provision. As discussed in Chapter 2 of this study, the holder must review and update the quantum of financial provision on an annual basis and must also assess the environmental liability annually. Reviewing the financial provision would ensure that rehabilitation and closure costs are adjusted accordingly to be in tune with the changing circumstances.[79] Because the regulations do not expressly require the closure plan to also be annually reviewed, Krause & Snyman opine that the *"purpose of ensuring the financial provision adapts to evolving circumstances would not be realised if the reviewed provision is based on a closure plan that has not itself been continually reviewed"*.[80] Adding to their submission, the aforementioned authors submit that regulations should clearly and expressly formalise assessment processes and periodic review so as to ensure that closure plans remain relevant.[81] Despite these regulatory shortcomings, there is still hope for more certainty around regulation of financial provision through the draft 2015 NEMA Regulations.

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[75] *Id*.

[76] *Ibid* n*65*.

[77] *Supra* n65 at 4.

[78] *Supra* n65 at 4-5.

[79] *Supra* n7 at 6.

[80] *Id*.

[81] *Id*.

4.4. Conclusion

The chapter discussed the key gaps in the legal framework regulating mine closure and rehabilitation, focusing on the key challenges. The MPRDA and its Regulation expresses the intention to have communities play a key role in the rehabilitation and closure phases through consultation. In fact, consultation with the interested and affected parties has to take place during the initial planning phase when the EMPr is compiled and submitted for authorisation and prior to the commencement of any mining operations. The shortfalls of these provisions lies in the fact that they are not comprehensive as they do not clearly express the manner in which the consultations must take place and the criteria that the mining industry must comply with. This further leaves communities marginalized and minimally participating in operations – rehabilitation and mine closure – that poses adverse social, economic and environmental impacts to them. The judiciary in South Africa has stepped in to address this major gap in the legislation, however, the legislature must do more to ensure that community interests are protected. The provisions that allows environmental liability and responsibility to be transferred to third parties needs to be critically assessed to ensure that measures are put in place to avoid liability being evaded by mining companies.

The regulatory frameworks for financial provision as it currently stands are insufficient, basic and riddled with uncertainties. Given the significant cost of rehabilitation to mining companies, these uncertainties are not good for investor confidence. With the mining industry currently facing myriad of challenges (i.e. labour unrest, retrenchments, unstable economy, uncertain minerals regime *etc.*), the least that can be done is promulgation of rehabilitation and closure laws that are favourable to all the stakeholders. Perhaps this way, mining companies would breathe easier knowing that they have provided adequate financial provision, and in return, they will obtain closure certificates that will absolve them of further environmental liabilities and responsibilities. On the positive side, the NEMA Regulations as a collaborative effort are promising a financial provision requirement regulation regime that provides more certainty and is agreed upon by key stakeholders in the mining industry, including the DMR, MCSA and other regulators.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The legal framework for mine closure and rehabilitation in South Africa plays a key role in directing the behaviours of various stakeholders involved in the mining industry towards achieving the defined or desired outcomes. The exposition of socio-economic aspects pertaining to mine closure revealed that poor or unsuccessful mine closure and lack of rehabilitation often results in serious financial implications for stakeholders as well as adverse impacts and long-term residual effects that encroach on the safety, health, social and environmental well-being of affected communities. During- and post-mine closure phase, communities often find themselves devastated due to significant unemployment rates and other related impacts. These problems are exacerbated by miscommunication over plans of mining companies, high community and government expectations, inter alia. These issues are complex and require effective communication and robust engagements among stakeholders at the initial planning phases prior to the commencement of mining operations.

An assessment of the financial provision requirement for rehabilitation has shown that the government through policy and legislative frameworks require mining houses to set aside financial provision in order to rehabilitate disturbed lands and also ensure that the mine closure is successful and sustainable. The intention of the requirement for financial provision is to mitigate lasting adverse impacts and to limit the risk of the government and the taxpayer inheriting the environmental liability and responsibilities for mines that have not been properly closed or rehabilitated. This requirement is not provided for in legislation, however, it is contained in the DMR guidelines as well as the MPRDA and the NEMA Regulations. The cost to rehabilitate onerous for mining companies and government, however, with appropriate pre-mining planning and continuous rehabilitation, this cost can end up being far less than it might have been should rehabilitation and closure be left until the last minute when the mine is near its end of life.

The MPRDA and its Regulations should address the key gaps identified and discussed above, such as lack of comprehensive consultation provisions, lack of definitions for critical aspects that results in uncertainty as well as the issue of transfer of environmental liability and responsibilities to third parties. Equally so, the regulations for financial provision requirements must be more comprehensive and must be covered in the main legislative framework regulating mineral resources, the MPRDA. As much as NEMA Regulations are to shed great light with regards to financial provision, it remains the mandate of the MPRDA to ensure certainty, predictability and consistency within the mining sector. Government has to work

together with the industry to ensure closure and rehabilitation are adequately regulated and that investors are not discouraged by the close to nothing number of closure certificates issued.

Mine closure and rehabilitation liability is covered by a plethora of laws, however, the main legal framework is the MPRDA which works in conjunction with other legislations such as NEMA and the National Water Act. The Constitution underpins all legislation, for our purpose, section 24 underpins laws regulating rehabilitation and closure. To some extent, the common law applies to rehabilitation as discussed above. The guideline documents are helpful in expanding on some of the aspects that legislation falls short of explaining, however, they remain non-binding and lack legal force. NEMA and its Regulations are highly praised for their comprehensive and detailed nature, something one cannot say about the MPRDA and its Regulations.

The MPRDA Amendment Bill is more contentious with Minister Gwede Mantashe seriously considering to withdraw it in order to allow the MPRDA in its current form to govern the mining industry. This does not provide much hope as issues such as financial provision are still not properly addressed and other uncertainties remain. Since 2011 up until today, less than ten closure certificates have been issued. This points to a big problem in the legal framework for mine closure. In light of the above, the dissertation is inclined to conclude that the South Africa legal framework is anything but efficacious in addressing the key challenges pertaining to liability for mine closure and rehabilitation.

5.2. Recommendations

The first recommendation is that the legislature must enact laws that will ensure that the rights of communities and other affected or interested parties are protected when it comes to issues of rehabilitation and mine closure, therefore, consultation should be backed up by proper procedures and criteria to ensure that this process is effective. Communities should be given an opportunity to *"participate in the design, implementation, monitoring and review of measures to mitigate negative impacts at all stages of the project life cycle"*.[82] Secondly, Mine closure and rehabilitation should take into account different permutations of socio-economic, environmental and political aspects that exists in each community and site, employing various mechanisms to incorporate forms of local knowledge into the rehabilitation process.[83]

[82] *Supra* n7 at 9.

[83] *Id*.

Thirdly, with regards to closure, it is recommended that high-level framework for strategically addressing regional environmental issues should be developed and limited to aspects of mine closure that relate to inter-mine impacts as well as cumulative environmental impacts.[84] In this regard, van Tonder *et. al.* proposes that the aspects of mine closure that are site-specific with no direct bearing on the regional impacts should be dealt with in mine closure plans of individual mining companies.[85] Mine waste or residue is another problem present when integrated mines are the topic of discussion. Fourthly, centralization of waste management which is also referred to as management by integration; reprocessing of waste that emanates from multiple mines over a period of more than 100 years as well as the extraction of residual gold and sometimes uranium, are some of the recommendations for dealing with cumulative impacts.[86]

One of the recommendations that Raiter *et al.* puts forth is the implementation of strategic and large-scale evaluation and planning for addressing cumulative impacts.[87] It is submitted in the article that in terms of project-level evaluations, the inclusion of cumulative and strategic assessment, integrated resource management and strategic offsets have a significant potential for alleviating cumulative impacts.[88] Lastly, a simple and yet significant recommendation made is to increase the transparency of the planning and that of impact assessments through public participation, this will improve the accountability of decision makers and developers that may have ulterior motives.[89] Most importantly, Raiter *et. al.* suggests that authorities should place the responsibility of mitigating cumulative environmental impacts on the developers even if the impacts may have not been accounted for during evaluations.[90]

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84 *Supra* n33 at 90.

85 *Id*.

86 *Supra* n33 at 95.

87 *Supra* n34 at 639.

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