
From Tailings to Tillings: Designing the Legal Framework for Mine Waste Land Rehabilitation Through Bio-Remediation

MLiA DSI-NRF CoP/WP2O19O1

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October 2019

Mineral Law in Africa (MLiA) Report commissioned by the [Towards Resilient Futures Community of Practice: "Developing a Fibre Micro-industry to Generate Economic Growth from Degraded Land"](#).

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Disclaimer: This research is funded through the Department of Science and Technology (DST) and the National Research Foundation (NRF) via the awarding of a Community of Practice to existing Research Chairs under the South African Research Chairs Initiative (SARCHI) funding instrument. The views expressed herein are those of their respective authors and do not necessarily represent those of the University of Cape Town, or any associated organisation/s.



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ISBN: 978-1-920633-73-8

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1. Introduction

As a country and a society, South Africa is driven by mining, a sector for which it is described as a “world leader”.¹ It has the world’s largest and most valuable reserves of manganese and platinum group metals (PGMs) and among the largest reserves of gold, diamonds, chromite ore and vanadium.² The distribution of these minerals is illustrated on the map below.

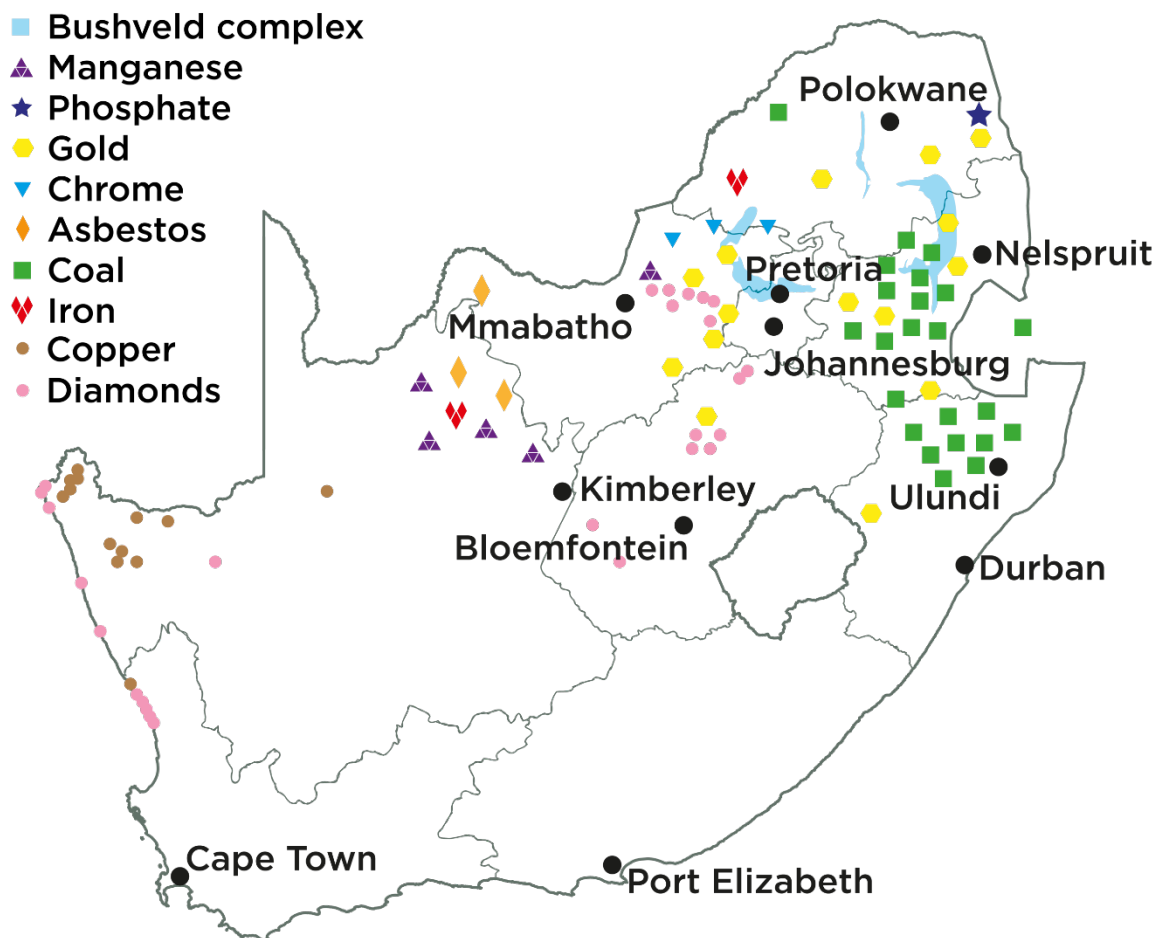


Figure 1: Minerals Distribution in South Africa³

¹ Van Zyl G “Ivo Vegter: Here’s Why Mining Still Matters if SA is to thrive” (18-03-2019) *BizNews* <<https://www.biznews.com/thought-leaders/2019/03/18/ivo-vegter-why-mining-matters-sa>> (accessed 07-10-2019).

² Minerals Council *Facts and Figures 2017* (2018) 21; United States Geological Survey *Mineral Commodity Summaries 2019* (2019) 181.

³ Siyavula Education “Minerals in South Africa” (03-04-2014) *Flickr* <<https://www.flickr.com/photos/121935927@N06/13598219513/in/photostream/>> (accessed 14-10-2019).

The mineral reserves have an estimated worth of R35 trillion (\$2.5 trillion).⁴ From a GDP standpoint, it is estimated that South Africa has the fifth-largest mining sector in the world.⁵ Resource extraction hence represents a significant part of the country's economic activity. This makes South Africa vulnerable to the exigencies of what has become known in economic theory as the "resource curse" – the "phenomenal dichotomy"⁶ between natural resource wealth and socio-economic development.⁷ This phenomenon is often ascribed to failures of governance.⁸

By all accounts, the country is affected by the resource-curse phenomenon.⁹ South Africa is plagued with what has become known as the "evil triplets" of poverty, unemployment and inequality.¹⁰ More than half (55.5%)¹¹ of the population is classified as poor, i.e. earning less than R900 (roughly 50 USD) per month. More than a quarter (27.5%) of the population is unemployed.¹² The country has a Gini

⁴ Vegter I "South Africa Needs Urgent Policy Reform to Save its Embattled Mining Industry" (26-03-2019) *Daily Maverick* <<https://www.dailymaverick.co.za/opinionista/2019-03-26-south-africa-needs-urgent-policy-reform-to-save-its-embattled-mining-industry/>> (accessed 07-10-2019); Dlamini S "With \$2.5 Trillion Untouched Mineral Wealth SA remains No. 1 – Gwede Mantashe" (04-09-2019) *IOL* <<https://www.iol.co.za/business-report/economy/with-25-trillion-untouched-mineral-wealth-sa-remains-no1-gwede-mantashe-31818051>> (accessed 07-10-2019).

⁵ Brand South Africa "SA's Key Economic Sectors" (02-01-2018) *Brand South Africa* <<https://www.brandsouthafrica.com/investments-immigration/business/investing/economic-sectors-agricultural>> (accessed 07-10-2019).

⁶ Luhende B *Towards a Legal Framework for Preventing Tax Revenue Leakage in the Upstream Oil and Gas Industry in Tanzania: An Analysis of the Concepts, Methods and Options available in a Public Trusteeship Model of Natural Resource Holding* PhD thesis University of Cape Town (2017) 2.

⁷ Auty argues that since the 1960s, resource-rich countries, especially in Africa, not only failed to benefit from their natural resource endowment but also performed worse in terms of socio-economic development and good governance than their counter parties with less endowment. In fact, these countries experienced unusually slow economic growth, abject poverty, rampant corruption, civil wars and despotic governments. See Auty RM *Sustaining Development in Mineral Economies: The Resource Curse Thesis* (1993) 1. Similarly, Sachs and Warner, in their seminal work, highlighted the disconnect that exists between resource wealth and economic growth, see Sachs J D and Warner AM "The Curse of National Resources" (2001) 45 *European Economic Review* 827 827-831. See also the general discussions by Africa Progress Panel *Africa Progress Report: Equity in Extractives Stewarding Africa's Natural Resources for All* (2013) 12-16; Ross ML *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations* (2012) 1-3; Humphreys M, Sachs JD and Stiglitz JE "Introduction : What is the Problem with Natural Resource" in Humphreys M, Sachs JD and Stiglitz JE (eds) *Escaping the Resource Curse* (2007) 1 1-5; Ross ML "The Political Economy of the Resource Curse" (1999) 51 *World Politics* 297 297-298 and Dell M "The Devil's Excrement: The Negative Effect of Natural Resources on Development" (2004) 26 *Harvard International Review* 38 38.

⁸ Carmignani F and Chowdhury A *Why Are Natural Resources a Curse in Africa, but not Elsewhere?* (2010) 3-4.

⁹ Elbra A "The Forgotten Resource Curse: South Africa's Poor Experience with Mineral Extraction" (2013) 38 *Resources Policy* 549 549.

¹⁰ Shabangu S "We Must Eliminate the Evil Triplets - Susan Shabangu" (02-09-2011) *politicsweb* (2011) <<https://www.politicsweb.co.za/opinion/we-must-eliminate-the-evil-triplets--susan-shabang>> (accessed 18-10-2019).

¹¹ Poverty headcount ratio reported by Stats SA "Poverty on the rise in South Africa" (22-08-2017) <<http://www.statssa.gov.za/?p=10334>> (accessed 02-11-2018).

¹² Stats SA "Quarterly Labour Force Survey, Quarter 3: 2018" (30-10-2018)

coefficient of 0.62, placing it amongst some of the most unequal societies in the world as concerns income.¹³ The country has also had to deal with several crises of governance,¹⁴ which might make longer-term visionary planning difficult. Corruption in the private and public sector occupies the current public debate.¹⁵ Looting of the state's coffers¹⁶ and incapacitated or severely hamstrung local government authorities¹⁷ are phenomena contributing to the state's inability to address poverty in communities.

Some of the communities most harshly affected are those living on or close to mine

<http://www.statssa.gov.za/?page_id=1854&PPN=P0211&SCH=7330> (accessed 02-11-2018).

¹³ OECD "Income inequality" (2018) <<https://data.oecd.org/inequality/income-inequality.htm>> (accessed 7-10-2019); World Bank "The World Bank in South Africa" (28-3-2019) <<https://www.worldbank.org/en/country/southafrica/overview>> (accessed 7-10-2019); Borat H, Van der Westhuizen C and Jacobs T "Income and Non-Income Inequality in Post-Apartheid South Africa: What are the Drivers and Possible Policy Interventions?" (31-08-2009) *Development Policy Research Unit* <http://www.dpru.uct.ac.za/sites/default/files/image_tool/images/36/DPRU%20WP09-138.pdf> (accessed 22-10-2019) 13.

¹⁴ For example, reported governance problems at the Board of Eskom and conflicts of interest involving the Minister of Mineral Resources. See Public Protector of South Africa *A State of Capture Report No. 6 of 2016/17* (14-10-2016) <<http://www.saflii.org/images/329756472-State-of-Capture.pdf>> (accessed 22-10-2019) 19, 119-121.

¹⁵ In the private sector, both business and general news were dominated by the Steinhoff saga since its share price collapse at the end of 2017. The situation uncovered at Steinhoff arguably constituted the largest instance of corporate fraud in South Africa's business history. Naudé P, Hamilton B, Ungerer M, Malan D and De Klerk M "Business Perspectives on the Steinhoff Saga" (2018) *University of Stellenbosch Business School Management Review Special Report* <http://www.namaf.org.na/docs/Steinhoff_Revision_28_06_2018_websmall.pdf> (accessed 7-10-2019) 3. In the public sector, the Zuma-years were characterised by a number of state capture and corruption scandals, many of which are still being exposed and untangled. These scandals involved improper appointments and removals of Ministers and corrupt awards of state tenders, amongst others. An investigation of state capture allegations can be found in Public Protector of South Africa *A State of Capture Report No. 6 of 2016/17* (14-10-2016) <<http://www.saflii.org/images/329756472-State-of-Capture.pdf>> (accessed 22-10-2019).

¹⁶ See Public Protector of South Africa *A State of Capture Report No. 6 of 2016/17* (14-10-2016) <<http://www.saflii.org/images/329756472-State-of-Capture.pdf>> (accessed 22-10-2019) 19-23 and 85-87.

¹⁷ *Minister of Local Government, Western Cape v Lagoonbay Lifestyle Estate (Pty) Ltd* 2014 1 SA 521 (CC) paras 26-27; *Executive Council, Western Cape v Minister of Provincial Affairs & Constitutional Development; Executive Council, KwaZulu-Natal v President of the Republic of SA* 2000 1 SA 661 (CC) para 17; National Planning Commission *National Development Plan 2030: Our Future - Make It Work* (2011) 45-46; National Planning Commission *Diagnostic Overview* (2011) 19 and 24; Department of Cooperative Governance and Traditional Affairs *State of Local Government in South Africa: Overview Report* (2009) 4-5; De Visser J *Developmental Local Government: A Case Study of South Africa* (2005) 238-239; Bekink B *Principles of South African Local Government Law* (2006) 284; Community Law Centre and University of the Western Cape *Paper I: Developmental Local Government: Determining Appropriate Functions and Powers* (2007) 18; Scheepers LA *An Institutional Capacity Model of Municipalities in South Africa* PhD thesis University of Stellenbosch (2015) 4; Meyer TC and Le Roux E "Capacity Building for Effective Municipal Environmental Management in South Africa" in Mander U et al. (eds) *The Sustainable City IV: Urban Regeneration and Sustainability* (2006) 445-453; Christmas A and De Visser J "Bridging the Gap between Theory and Practice: Reviewing the Functions and Powers of Local Government in South Africa" (2009) 2 *Commonwealth Journal of Local Governance* 107-110; Van Niekerk T "Local Government Turnaround Strategy: Challenges, Constraints and Benefits" (2012) 20 *Administratio Publica* 54-65.

sites.¹⁸ Very often, these communities count among the poorest of our poor, and it is clear that they are not benefitting from the extractive activity taking place on their doorsteps.¹⁹ Even more often, these communities risk losing land – their main source of wealth creation – to the degradation that follows in the wake of a mining project.²⁰ There is, accordingly, significant pushback from especially traditional rural African communities against the granting of new mining rights.²¹

The South African mining industry remains plagued by the spectres of apartheid.²² Labour disputes,²³ community unrest, health and safety concerns,²⁴ environmental dangers,²⁵ discrimination²⁶ and a flailing economy constitute some of the prevailing apartheid legacies.²⁷ These legacies manifest in and influence not only physical and social processes, but also current understandings of and opinions about the mining

¹⁸ Harvey R “How to Ensure Communities Living Near Mining Activities Get a Better Deal” (08-05-2018) *Mail & Guardian* <<https://mg.co.za/article/2018-05-08-how-to-ensure-communities-living-near-mining-activities-get-a-better-deal>> (accessed 02-11-2018).

¹⁹ Mnwana S “Mining and ‘Community’ Struggles on the Platinum Belt: A Case of Sefikile Village in the North West Province, South Africa” (2015) 2 *The Extractive Industries and Society* 500 502 and 508.

²⁰ Mhlongo SM and Amponsah-Dacosta F “A Review of Problems and Solutions of Abandoned Mines in South Africa” (2016) 30 *International Journal of Mining, Reclamation and Environment* 279 283.

²¹ In *Balení and Others v Minister of Mineral Resources and Others* 2019 1 All SA 358 (GP) para 11, the applicants – representatives of the Umgungundlovu community – opposed the proposed establishment of a mine operated by Transworld Energy and Mineral Resources (SA) (Pty) Ltd on their ancestral land. In this case at para 83, the court declared that customary communities who hold rights over land in terms of the Interim Protection of Informal Land Act 31 of 1996 may not be deprived of their land (even for the purposes of mining in terms of the MPRDA) without their consent. Further, in *Maledu and Others v Itereleng Bakgatla Mineral Resources (Pty) Limited and Another* 2019 2 SA 1 (CC) para 3, certain members of the Lesetlheng Community approached the Constitutional Court, seeking to set aside an order from the High Court evicting them from land upon which they lived and farmed. In paras 12-14 of the case, two entities had been granted mining rights to commence mining operations on this same land, and the community was evicted so as to allow such operations to get underway. At para 109 the Constitutional Court set aside the eviction order of the High Court, holding that the MPRDA does not permit “the holder of a mining right to institute eviction proceedings against the landowner or lawful occupier when the latter refuses to allow the former access to the land to which his or her right relates”. At para 109 the Constitutional Court also held that the MPRDA’s internal remedies to resolve conflicts between holders of mining rights and lawful occupiers of the land to which that right relates must be exhausted before common law remedies are available to holders of mining rights.

²² Humby T “Redressing Mining Legacies: The Case of the South African Mining Industry” (2016) 135 *Journal of Business Ethics* 653 653. This section is based on research of Analisa Ndebele towards her masters’ thesis, entitled *Rhetoric of Transformation in the South African Mining Charter*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

²³ South Africa was able to pursue the highly profitable activity of deep-level mining through the cheap labour provided by black people. Migration labour enabled South Africa’s twentieth century industrialisation, but also fuelled labour conflicts. See Freund B and Witt H “Development Dilemmas in Post-Apartheid South Africa” (2010) 5.

²⁴ Jeffrey A “BEE: Helping or Hurting” (2014) 218.

²⁵ Leonard L “Mining Corporations, Democratic Meddling, and Environmental Justice in South Africa” (2018) 7(259) *Social Sciences* 1.

²⁶ Jeffrey A “BEE: Helping or Hurting” (2014) 217.

²⁷ Humby T “Redressing Mining Legacies: The Case of the South African Mining Industry” (2016) 135 *Journal of Business Ethics* 653 657

industry.²⁸ These historical issues continue to influence conflicts between government, mining companies and mine communities.²⁹ When coupled with the present regulatory uncertainty,³⁰ dusk befalls this so-called sunrise industry.³¹ This predicament faced by the mining industry seems inexplicable when one considers the government's efforts to address the colonial and apartheid legacies of the mining regime.³²

Amid tackling the potential challenges arising from the legacy of mining, the industry has seen a steady decline, in both jobs and production output.³³ Between 2007 and 2017, the mining sector declined by over four per cent in value.³⁴ This value is portrayed by the number of job losses, largely affecting unskilled workers.³⁵ Several reasons account for this decline in employment, including the decline in mining production, 'the lack of operational and cost-competitiveness of large parts of the South African mining industry' and the vulnerability of the industry to price volatility and commodity fluctuations.³⁶ In addition, labour unrest – which often turns violent – further deteriorates the situation.³⁷ Labour unrest in the mining sector has further

²⁸ Humby T "Redressing Mining Legacies: The Case of the South African Mining Industry" (2016) 135 *Journal of Business Ethics* 653 657

²⁹ The Marikana massacre was the epitome of such clashes. See Grimm M, Krameritsch J and Becker B (eds) "Business as usual after Marikana: Corporate Power and Human Rights" (2018).

³⁰ Moalusi L and Malesa G "Policy and Regulatory Framework for South Africa's Mining Industry – Looking Ahead" (07-02-2019) Creamer Media's Engineering News
<https://www.engineeringnews.co.za/article/policy-and-regulatory-framework-for-south-africas-mining-industry---looking-ahead-2019-02-07/rep_id:4136> (accessed 18-03-2019)

³¹ De Hoop H "South African mining sector faces a tough year" (19-02-2016) Mail&Guardian
<<https://mg.co.za/article/2016-02-19-00-south-african-mining-sector-faces-a-tough-year>> (accessed 18-03-2019)

³² In the democratic age, government established a regulatory framework for the mining sector through the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA), which aims to address apartheid legacies in the sector through redress. The MPRDA is discussed extensively throughout this report.

³³ Minerals Council South Africa 'The future of the South African mining industry' (2019); Fedderke J and Pirouz F "The Role of Mining in the South African Economy" (2002) 5 *South African Journal of Economic and Management Sciences* 1.

³⁴ Goodman S, Rajagopaul A and Cassim Z "Putting the Shine Back into South African Mining: A Path to Competitiveness and Growth" (2019) McKinsey & Company
<<https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Middle%20East%20and%20Africa/Putting%20the%20shine%20back%20into%20South%20African%20mining/McK-Putting-the-shine-back-into-South-African-mining-A-path-to-competitiveness-and-growth.ashx>> (accessed 22-10-2019).

³⁵ Fedderke J and Pirouz F "The Role of Mining in the South African Economy" (2002) 5 *South African Journal of Economic and Management Sciences* 1.

³⁶ Goodman S, Rajagopaul A and Cassim Z "Putting the Shine Back into South African Mining: A Path to Competitiveness and Growth" (2019) McKinsey&Company
<<https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Middle%20East%20and%20Africa/Putting%20the%20shine%20back%20into%20South%20African%20mining/McK-Putting-the-shine-back-into-South-African-mining-A-path-to-competitiveness-and-growth.ashx>> (accessed 22-10-2019).

³⁷ Humby T "Redressing Mining Legacies: The Case of the South African Mining Industry" (2016) 135 *Journal of Business Ethics* 653.

contributed to mine shaft closures, resulting in mining revenue losses.³⁸

The common perception shared both by mine workers and mine communities is that mining in general, has only benefited a few.³⁹ Evidence of this perception is often demonstrated by numerous 'ghost towns' where mining activities have ceased.⁴⁰ This has been termed the 'boom-and-bust' effect with the lack of diversifying the economic activities being a key reason.⁴¹

The government has responded to this crisis through committing funds of approximately R18 billion, geared towards the revitalisation of both current and former mining towns.⁴² This project is targeting several mining towns, covering the Eastern Cape; Free State; Gauteng; KwaZulu Natal; Limpopo; Mpumalanga and North West.⁴³ A key focus of this project is the development of decent, affordable housing units in the areas identified. Furthermore, the Department of Trade and Industry, Economic Development Department (EDD) and the Department of Small Business Development (DSBD) are facilitating the implementation of several industrial projects, targeting the distressed mining towns.⁴⁴

One response to the risk of the resource curse, it has been posited, is a concerted effort towards diversification of an economy's productive structure toward increasingly complex agriculture and manufactured products. This will, it is

³⁸ Claassens A 'Mining Magnates and Traditional Leaders: The Role of Law in Elevating Elite Interests and Deepening Exclusion 2002-2018' (2018) *Mapungubwe Institute for Strategic Reflection* <<http://www.mistra.org.za/Library/ConferencePaper/Pages/Dr-Aninka-Claassens-Working-Paper-on-Mining-Magnates-and-Traditional-Leaders.aspx>> (accessed 22-10-2019).

³⁹ Nicolson G "Mining Brings No Benefit, Say 79% of Community Members in Audit" (05-02-2019) *Daily Maverick* <<https://www.dailymaverick.co.za/article/2019-02-05-mining-brings-no-benefit-say-79-of-community-members-in-audit/>> (accessed 22-10-2019).

⁴⁰ Marais L and Nel E "The Dangers of Growing on Gold: Lessons for Mine Downscaling from the Free State Goldfields, South Africa" (2016) 31 *Local Economy* 282.

⁴¹ Sorensen P "Mining in South Africa: A Mature Industry?" (2011) 68 *International Journal of Environmental Studies* 638.

⁴² The Presidency "Much Progress Made in the Revitalisation of Distressed Mining Towns" (30-06-2015) <<http://www.thepresidency.gov.za/content/much-progress-made-revitalisation-distressed-mining-towns>> (accessed 25-10-2019); Williams P "Inter-Ministerial Committee for the Revitalisation of Distressed Mining Towns and Labour Sending on Release of the SAHRC Report" (23-08-2018) <<https://www.gcis.gov.za/newsroom/media-releases/inter-ministerial-committee-revitalisation-distressed-mining-towns-and>> (accessed 25-10-2019).

⁴³ The Presidency "Much Progress Made in the Revitalisation of Distressed Mining Towns" (30-06-2015) <<http://www.thepresidency.gov.za/content/much-progress-made-revitalisation-distressed-mining-towns>> (accessed 25-10-2019).

⁴⁴ The Presidency "Much Progress Made in the Revitalisation of Distressed Mining Towns" (30-06-2015) <<http://www.thepresidency.gov.za/content/much-progress-made-revitalisation-distressed-mining-towns>> (accessed 25-10-2019).

assumed, help address one of South Africa's most pressing tasks: to generate sustainable and inclusive economic growth.⁴⁵ What is needed is to devise a different approach to structural transformation.⁴⁶ Unfortunately, South Africa has historically performed poorly in strategising such novel approaches.⁴⁷ It has only been able to display relatively modest growth performances over the past twenty years.⁴⁸

To find an assertive pattern of structural transformation and inclusive growth in the economy, it will be necessary to transition a low-producing agricultural sector into one of high productivity and growth; one which is export-oriented.⁴⁹ In conjunction, a dynamic manufacturing sector, geared towards promoting both employment and an export-intensive economy, must be developed.⁵⁰ A highly productive agricultural sector and a dynamic manufacturing sector can be key to fostering inclusive growth and poverty reduction in South Africa.⁵¹ To achieve such diversification, the South African economy's productive structure needs complexity.⁵²

Bioremediation and restorative agriculture are potential areas of interest for rethinking economic development.⁵³ They provide the chance to repair degraded land (by enhancing its environmental and social value) and offer economic value through integrated land development.⁵⁴ New economic sectors can be enabled to

⁴⁵ South African Government "Medium-Term Strategic Framework 2014-2019" (07-08-2014) *South African Government* <https://www.gov.za/sites/default/files/gcis_document/201409/mtsf2014-2019.pdf> (accessed 22-10-2019) 21. Also see the National Planning Commission *Our Future- Make It Work: National Development Plan 2030* (South Africa: The Presidency of the Republic of South Africa, 2012) at 117.

⁴⁶ Lin JY "From Flying Geese to Leading Dragons: New Opportunities and Strategies for Structural Transformation in Developing Countries" (2012) 3 *Global Policy* 397.

⁴⁷ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished University of Cape Town 8.

⁴⁸ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished University of Cape Town 8.

⁴⁹ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished University of Cape Town 31.

⁵⁰ Hausmann R, Hwang J and Rodrik D "What You Export Matters" (2007) 12 *Journal of Economic Growth* 2; Margaret S and Rodrik D *Globalization, Structural Change and Productivity Growth* (2011) 1 and 12.

⁵¹ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished paper University of Cape Town 31.

⁵² Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished University of Cape Town 26.

⁵³ Broadhurst J, Chimbanga T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 1. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁵⁴ Broadhurst J, Chimbanga T and Hangone G (2019) *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* unpublished paper University of Cape Town 48. Also see Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished paper University of Cape Town 7.

grow and new product spaces enabled to emerge as a result, while diverse productive opportunities and economic inclusivity are created.⁵⁵ One imagined trajectory is the processing of hardy (fibrous) plants, such as bamboo, kenaf, hemp, flax and sisal, which may yield fibres used to produce textiles and other useful materials to support various sectors of the economy, including automotive, textile, paper and energy production.⁵⁶ This report will refer to this proposed intervention as the Fibrous Future Initiative (FFI). Such an FFI should be scalable and implemented in a way that allows for the creation of new product spaces and economic complexity, from the ground zero of mine wasteland.

This report was commissioned as part of the interdisciplinary research initiative: “Towards Resilient Futures Community of Practice: Developing a Fibre Micro-Industry to Generate Economic Growth from Degraded Land”, funded by the National Research Foundation. For the legal researchers involved in this multi-partnered, interdisciplinary project, it has provided a unique opportunity to analyse the extent to which the legal framework enhances or hinders the adoption of innovative technology insofar as mine rehabilitation is concerned. The relationship between the various aspects of the project is symbiotic: whilst the other disciplines may provide the innovative technologies and solutions to a complex problem, they will be of little practical value if the legal framework is prohibitive in terms of the implementation of these suggestions. The process needed to draw conclusions about the viability of rehabilitating mine wasteland through bioremediation and restorative agriculture using fibrous plants is therefore iterative, dependent on constant flows of communication between the various disciplines involved. This report scopes the potential legal issues and maps the legal framework available and needed for an FFI.

⁵⁵ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F (2019) *Building Economic Complexity in the South African Fibrous Plant Economy* unpublished University of Cape Town 31. Also see Broadhurst J, Chimbanga T and Hangone G (2019) *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* unpublished University of Cape Town 48.

⁵⁶ Broadhurst J, Chimbanga T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town; Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F *Building economic Complexity in the South African Fibrous Plant Economy* (2019) unpublished University of Cape Town.

This report specifically interrogates the status quo of the legal framework – the currently available remedies and incentives, sanctions and penalties afforded and imposed by the law. The aim is to establish the extent to which these provisions will facilitate the envisaged mine rehabilitation proposals. Where the legal framework bars the adoption of what seems to be particularly useful and innovative solutions, suggestions for law reform must follow.

2. Mine Closure and Rehabilitation⁵⁷

From a legal perspective, a mine's life cycle is only considered completed once the mine has ceased operations and a closure certificate is issued by the Minister of Mineral Resources and Energy.⁵⁸ A closure certificate is issued upon provision of documents such as the closure plan, which includes an environmental risk report indicating that the closed mine is to be rehabilitated in accordance with specified standards.⁵⁹

Mine rehabilitation, on the other hand, refers to the restoration of the post-mined landscape to a state suitable for future use of the land.⁶⁰ A proper rehabilitation process largely depends on transparency and meaningful consultation.⁶¹ The purpose of transparency and consultation is to ensure accountability to stakeholders in general and, in particular, to affected or concerned communities whose well-being depends (at least to some extent) on a successfully rehabilitated mine site.⁶²

The mine closure and rehabilitation processes are the responsibility of the mining right holder.⁶³ The primary reason for mine closure and rehabilitation is to avoid

⁵⁷ This section is an excerpt from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context: An analysis of Environmental Decision-Making Processes*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

⁵⁸ S 24R(1) of National Environmental Management Act 107 of 1998 (NEMA); S 43 of the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA).

⁵⁹ S 43(2) of the MPRDA; Krause RD and Snyman LG *Rehabilitation and Mine Closure Liability: An Assessment of the Accountability of the System to Communities* (2014) Proceedings of the 9th International Conference of Mine Closure 1.

⁶⁰ Zupunski M, Pajevic S, Arsenov D, Nikolic N, Pilipovic A and Borisev M "Insights and Lessons Learned from the Long-Term Rehabilitation of Abandoned Mine Lands – A Plant-Based Approach" in Prasad MNV, De Campos PJ Favas and Maiti SK (eds) *Bio-Geotechnologies for Mine Site Rehabilitation* (2018) 215-220.

⁶¹ Morrison-Saunders A, Gorey P, Doepel D, Mtegha H and McHenry MP *Enhancements in Mine Closure Planning in Western Australia and Possible Applications for Africa* (2014) 2-3 and 8-9.

⁶² Australian Government, Department of Industry, Tourism and Resources *Mine Closure and Completion: Leading Practice Sustainable Development Program for the Mining Industry* (2006) 1-2 and 7-8.

⁶³ See s 34 generally and s 34(a) in particular of the Mineral and Petroleum Resources Development Amendment Act 49 of 2008.

mines being abandoned and thus causing long-term detrimental environmental issues.⁶⁴ Such issues are more likely to emerge when the rehabilitation process is not appropriately addressed.⁶⁵ To achieve a successful closure and rehabilitation, the mining right holder must acknowledge the need for and the duty to ensure environmental sustainability.⁶⁶ Organised and effective mine closure and rehabilitation are required to avoid future pollution of water resources or other hazardous situations.⁶⁷ The primary objective of a mine completion process is to avoid or mitigate its adverse and long-term effects.⁶⁸

Mine closure and rehabilitation are best achieved when a proper plan is in place and implemented from the commencement of mining activities and progressively as the mine operations progress.⁶⁹ Successful rehabilitation requires adequate planning, monitoring and trials, as well as the assignment of funds to finance the implementation of the closure and rehabilitation plan.⁷⁰

Applicants for environmental authorisations are required to make financial provision⁷¹ (to be held by the Minister of Mineral Resources and Energy) for rehabilitation purposes.⁷² Should the mining right holder fail to rehabilitate the mine land, the Minister of Mineral Resources and Energy may make use of part or all of the funds provided by the right holder to rehabilitate the land.⁷³

⁶⁴ Robertson A and Shaw S *Mine Closure* (2006) 3 and 5. Also see the discussion on abandonment under section 5.2.1 below.

⁶⁵ Limpitlaw D, Aken M, Lodewijks H and Viljoen J *Post-Mining Rehabilitation, Land Use and Pollution at Collieries in South Africa* (2005) unpublished paper presented at the Colloquium: *Sustainable Development in the Life of Coal Mining* hosted by South African Institute of Mining and Metallurgy, (13-07-2005) 2.

⁶⁶ Nzimande Z and Chauke H "Sustainability Through Responsible Environmental Mining" (2012) 112 *Journal of the Southern African Institute of Mining and Metallurgy* 135 137-138.

⁶⁷ See s 23(2)(b) of NEMA.

⁶⁸ Committee on Abandoned Mine Land Research Priorities, Board on Mineral Energy Resources, Mathematics Commission on Physical Sciences and Resources and National Research Council *Setting Priorities for Abandoned Mine Land Research* (1987) 34.

⁶⁹ Mchaina DM "Environmental Planning Considerations for the Decommissioning, Closure and Reclamation of a Mine Site" (2001) 15 *International Journal of Surface Mining, Reclamation and Environment* 163 164 and 173-175.

⁷⁰ Mchaina DM "Environmental Planning Considerations for the Decommissioning, Closure and Reclamation of a Mine Site" (2001) 15 *International Journal of Surface Mining, Reclamation and Environment* 163 174-175.

⁷¹ See s 1 of NEMA for the definition of "financial provision". Making financial provision means the "insurance, bank guarantee, trust fund or cash that applicants for an environmental authorisation must provide in terms of [NEMA] guaranteeing the availability of sufficient funds to undertake" the adverse impacts resulting from mining activities.

⁷² S 24P (1) and (5) of NEMA.

⁷³ S 24P (2) of NEMA.

A mine is considered completed and rehabilitated once it reaches a state where the use of the land can be relinquished by the mining right holder and the next land use can commence.⁷⁴

3. Why Fibrous Plants on Mine Wasteland?

Environmental problems arising from mining activities show similarities across many jurisdictions: land degradation and soil erosion, deforestation, water management, climate change and waste pollution.⁷⁵ The negative environmental impact of mining waste and pollution is visible, for example, in the toxic contamination of soils⁷⁶ and acid mine drainage.⁷⁷

Where minerals have not (yet) been discovered and exploited, generally, societies rely on agriculture for economic sustenance.⁷⁸ Following the discovery of minerals and the start of mining operations in South Africa, local economies started to rely heavily on mining, both directly and indirectly for their livelihood.⁷⁹ Agriculture cannot be neglected amidst mine operations, because it remains vital to local communities.⁸⁰ It must, therefore, be promoted to ensure the rehabilitation of soils, as well as economic diversification.⁸¹ Farming of food crops requires healthy soils

⁷⁴ Alberts R, Wessels JA, Morrison-Saunders A, McHenry MP, Sequeira AR "Complexities with Extractive Industries Regulation on the African Continent: What Has 'Best Practice' Legislation Delivered in South Africa?" (2017) 4 *The Extractive Industries and Society* 267 269.

⁷⁵ Ruppel-Schlichting K "Namibia and Its Environment" in Ruppel OC and Ruppel-Schlichting K (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life* 3 ed (2016) 22-28.

⁷⁶ See e.g. Renkhoff NA *Evaluation of Nuclear Legislation: The Issue of Rehabilitation of Uranium Mine Sites in Namibia* (2015) 22.

⁷⁷ See e.g. Terence S and McCarthy "The Impact of Acid Mine Drainage in South Africa" (2011) 107 *South African Journal of Science* 1.

⁷⁸ Thompson L A *History of South Africa: From the Earliest Known Human Habitation to the Present* (2014) 10; Feinstein C *An Economic History of South Africa: Conquest, Discrimination and Development* (2005) 1-3.

⁷⁹ Eggert RG "Mining and Economic Sustainability: National Economies and Local Communities" (2001) *Mining, Minerals, and Sustainable Development* 20.

⁸⁰ Eggert RG "Mining and Economic Sustainability: National Economies and Local Communities" (2002) *Mining, Minerals, and Sustainable Development Project of the International Institute for Environment and Development* < <https://pubs.iied.org/pdfs/G00952.pdf> > (accessed 23-10-2019) 4.

⁸¹ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F *Building Economic Complexity in the South African Fibrous Plant Economy* (2019) unpublished University of Cape Town 26.

which cannot be found on mine sites or wastes as it stands.⁸² However, other types of crops can be grown on mine wasteland with some environmental benefits.⁸³

In the mining heartland of South Africa, the widespread occurrence of metal pollution is an extensive challenge.⁸⁴ There is a constant search for new methods to concentrate and recover these metals while making optimal use of the land.⁸⁵ There are a number of commercial fibre-producing plants that can be used to produce furniture, textiles, paper and biofuels whilst also simultaneously remediating metal-contaminated land.⁸⁶ Scientists are particularly interested in the potential of fibrous plants, such as bamboo, kenaf, hemp, flax and sisal to achieve this goal.⁸⁷ These plants can grow on degraded soil and in treatment wetlands.⁸⁸ They are able to absorb and concentrate environmentally noxious metals in their roots, stems or leaves, thus removing the metals from the soil and permitting the re-entry of such croplands into the agricultural cycle.⁸⁹

⁸² Broadhurst J, Chimbhanda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 1. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁸³ Broadhurst J, Chimbhanda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 2-46. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁸⁴ Addo-Bediako A, Matlou K, and Makushu E "Heavy Metal Concentrations in Water and Sediment of the Steelpoort River, Olifants River System, South Africa" 43 *African Journal of Aquatic Science* (2018) 413 413. Also see Gzik A, Kuehling M, Ingo Schneider I and Tschochner B "Heavy Metal Contamination of Soils in a Mining Area in South Africa and its Impact on Some Biotic Systems" 3 *Journal of Soils and Sediments* (2003) 29 29.

⁸⁵ See, in general, Raymond AW and Felix EO "Heavy Metals in Contaminated Soils: A Review of Sources, Chemistry, Risks and Best Available Strategies for Remediation" *International Scholarly Research Notices Ecology* (2011); Mosa KA, Saadoun I, Kumar K, Helmy M and Dhankher OP "Potential Biotechnological Strategies for the Cleanup of Heavy Metals and Metalloids" 7 *Front Plant Sci.* (2016) 303.

⁸⁶ Broadhurst J, Chimbhanda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 2-46. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁸⁷ Broadhurst J, Chimbhanda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 46. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁸⁸ Broadhurst J, Chimbhanda T and Hangone G (2019) *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* unpublished University of Cape Town 2-46.

⁸⁹ Broadhurst J, Chimbhanda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of

Plants such as bamboo, kenaf, hemp, flax and sisal allow for the growing of hardy crops for industrial applications or planting on potentially contaminated land.⁹⁰ Fibre farming can serve the production of textiles and composites.⁹¹ It can also provide biomass for bioconversion to fine chemicals (and possibly fuels).⁹² There are also whole-plant uses, for example, furniture manufacturing.

Fibre farming, the CoP Resilient Futures hypothesized, will be a key element in enabling mining communities left devastated by the after-effects of mineral extraction to rise from the ashes, as it were, and move on to new horizons of sustainable and lasting prosperity. To do so will require a link to be made between the agricultural production of biomass on degraded land and an economy that can take up the produce and channel it into sources of economic value that can be sustained post-mine closure, generating a diversity of livelihoods for those in the area.⁹³

Examining the extent to which fibrous plants can be employed in the rehabilitation of mine wasteland hence provides insight into new methods of post-mining land and water restoration; diversifying the agricultural enterprise and expanding from there into a manufacturing economy.⁹⁴ What must be established is, firstly, the bio-scientific basis which would enable the relevant plant varieties to thrive and, building thereon, how to develop a deliberate set of regulatory and economic policy interventions which may allow industries derived from these products to expand and thus raise overall economic complexity in the economy. This report serves to pursue

Cape Town 25-36. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁹⁰ Broadhurst J, Chimbanga T. and Hangone G (2019) *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* unpublished University of Cape Town 25-36.

⁹¹ Broadhurst J, Chimbanga T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 4.

⁹² Broadhurst J, Chimbanga T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town 45. Also see Harrison STL, Rumjeet S, Mabasa X and Verster B (2019) *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town.

⁹³ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F *Building Economic Complexity in the South African Fibrous Plant Economy* (2019) unpublished University of Cape Town 6.

⁹⁴ Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F *Building Economic Complexity in the South African Fibrous Plant Economy* (2019) unpublished University of Cape Town. Also see Hausmann R, Hwang J, and Rodrik D "What You Export Matters" 12 *Journal of Economic Growth* (2007) 1 2; Margaret S, and Rodrik D *Globalization, Structural Change and Productivity Growth* (2011) 1.

the latter question and must be read as complimentary to the three reports submitted as part of the Resilient Futures CoP by the teams from Engineering, Science and Economics.

4. Mine Rehabilitation: Imagining the Law as a Tool for Change

This section scopes the potential legal issues that may arise in initiating an FFI on mine wasteland. If the legal framework is prohibitive, even the best-laid plans will have very little practical value. An enabling legal framework is needed to implement the various aspects of the suggested venture of cleaning mine wasteland and simultaneously boosting the agricultural and manufacturing sectors of the economy. The current legal framework thus needs to be understood in order to evaluate how well the solutions proposed from the economic, agricultural or scientific perspectives are catered for. Below, the report provides an exposition of the proposed manner in which the legal framework can be evaluated with the purpose of determining the viability of an FFI

4.1. A structured approach for transformation and change

In undertaking the legal analysis, inspiration is drawn from a futures research method referred to as the “Three Horizons” – an approach “biased towards structural and systems-oriented futures practice”.⁹⁵ The approach is typically depicted along a multidimensional enquiry as follows:

⁹⁵ Curry A and Hodgson A “Seeing in Multiple Horizons: Connecting Futures to Strategy” (2008) 13 *Journal of Futures Studies* 13 1.

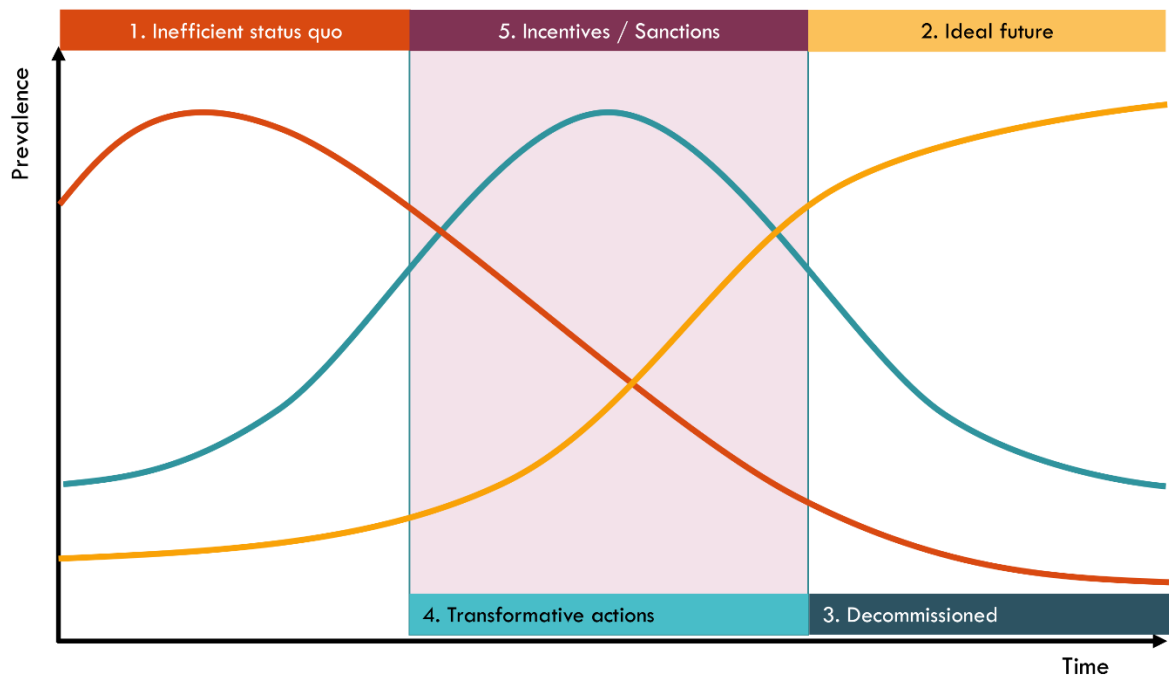


Figure 2: Three Horizons

The first inquiry is to examine the status quo regarding current approaches and operations. A major part of the insight gained by analysing the status quo is that current processes and systems have failings when it comes to improvement, innovation and change.⁹⁶ Therefore, the analysis must also determine the extent to which current processes and systems are losing their “fitness for purpose”.⁹⁷ For current purposes, this would require an analysis of the current legislation relating to licences, authorisations and processes in the mining and land rehabilitation context. An important part of this inquiry is to identify those elements of current practice that need to remain intact for uncertainties and risks to be heeded or eliminated. Sharpe,⁹⁸ calls this “keeping the lights on”.

The second inquiry is to imagine the future system: new ways of operating that will better suit the emerging needs and purposes.⁹⁹ To a large extent, this aspect formed

⁹⁶ See discussion in Section 5 below.

⁹⁷ Curry A and Hodgson A “Seeing in Multiple Horizons: Connecting Futures to Strategy” (2008) 13 *Journal of Futures Studies* 1 8; Sharpe B, Hodgson A, Leicester G, Lyon A and Fazey I “Three Horizons: A Pathways Practice for Transformation” (2016) 12 *Ecology and Society* 47.

⁹⁸ Sharpe B, Hodgson A, Leicester G, Lyon A and Fazey I “Three Horizons: A Pathways Practice for Transformation” (2016) 12 *Ecology and Society* 47; Sharpe B “Three Horizons and Working with Change” (2014) *London Gathering* <<http://www.triarchypress.net/uploads/1/4/0/0/14002490/sharpe-compass-jan2014-final.pdf>> (accessed 8-10-2019) 8.

⁹⁹ Kass G, Shaw R, Tew T and Macdonald D “Securing the Future of the Natural Environment: Using Scenarios to Anticipate Challenges to Biodiversity, Landscapes and Public Engagement with Nature” (2011) 48 *Journal of Applied Ecology* 15 19; Sharpe B “Three Horizons and Working with Change” (2014) *London Gathering* <<http://www.triarchypress.net/uploads/1/4/0/0/14002490/sharpe-compass-jan2014-final.pdf>> (accessed 8-10-2019).

the very reason for the Towards Resilient Futures CoP: reimagining the impetus for mine wasteland rehabilitation by making it an integral part of achieving sustainable and inclusive economic growth. This report is, therefore, guided by the findings and suggestions of our colleagues within the Community of Practice in mapping some of the imagined futures using this case study.

Building on these two preceding questions is a third line of inquiry dealing with the zone of transition and transformation between current practices and systems, and the imagined future systems and practices.¹⁰⁰ The inquiry here is about how to respond to the shortcomings identified in the current system/practice, and how to anticipate the imagined possibilities of the future, improved and appropriate system/practice. Sharpe calls this intermediate phase the “ambiguous territory” of dominant “old ways” overlapping with “new possibilities”.¹⁰¹ It requires entrepreneurial thinking, a willingness to try and fail, while relying on familiar patterns in as far as they still serve the required purposes.¹⁰²

To facilitate new possibilities, law reform may be required. Before conducting a legal analysis¹⁰³ based on the Three Horizons approach, the following section examines the nature and purpose of legislation from a theoretical perspective.

4.2. Proactive and Reactive Lawmaking

The Law fulfils several functions in society that may be relevant to an attempt to create economic complexity and diversification. The Law establishes the standards for behaviour and interaction in society.¹⁰⁴ It protects the liberties and rights of those involved in or affected by particular choices, activities and ventures.¹⁰⁵ The Law

¹⁰⁰ Curry A and Hodgson A “Seeing in Multiple Horizons: Connecting Futures to Strategy” (2008) 13 *Journal of Futures Studies* 7; Sharpe B “Three Horizons and Working with Change” (2014) *London Gathering* <<http://www.triarchypress.net/uploads/1/4/0/0/14002490/sharpe-compass-jan2014-final.pdf>> (accessed 8-10-2019).

¹⁰¹ Sharpe B “Three Horizons and Working with Change” (2014) *London Gathering* <<http://www.triarchypress.net/uploads/1/4/0/0/14002490/sharpe-compass-jan2014-final.pdf>> (accessed 8-10-2019).

¹⁰² Sharpe B “Three Horizons and Working with Change” (2014) *London Gathering* <<http://www.triarchypress.net/uploads/1/4/0/0/14002490/sharpe-compass-jan2014-final.pdf>> (accessed 8-10-2019).

¹⁰³ See Section 5 below.

¹⁰⁴ Fuller L “Law as an Instrument of Social Control and Law as a Facilitation of Human Interaction” (1975) 1 *Brigham Young University Law Review* 89.

¹⁰⁵ For a historical overview, see Fallon Jr RH “The Rule of Law as a Concept in Constitutional Discourse” (1997) 97 *Columbia Law Review* 1.

serves to maintain order;¹⁰⁶ and where a breach of the peace threatens or has occurred, the law serves to resolve resultant conflicts or disputes.¹⁰⁷

In societies in transition, the law also fulfils further functions. It can serve as the basis for compromise among all affected, by facilitating orderly change.¹⁰⁸ The Law can also be the tool with which to achieve social justice.¹⁰⁹

Importantly, the Law has a major corrective purpose,¹¹⁰ and this is expressed in various ways. On the one hand, the law can be **reactive**: this is the backwards-looking, failure-oriented approach in terms of which errors or injustices are addressed to restore the balance in society or to restore the peace.¹¹¹ Some authors refer to this as negative sanctioning in the law.¹¹² Negative sanctioning is seen as a major power of the state: the ability – legitimately endorsed (in statute) – to coerce certain types of behaviour.¹¹³ The strength of this approach lies in the penalties that befall those who do not comply with the expected behaviour.¹¹⁴ These penalties can be in the form of a fine, criminalisation with or without imprisonment, and loss of property and/or licences, to name but a few.

On the other hand, the law can also operate in a **proactive** sense to address anticipated future problems, needs or changes.¹¹⁵ Some authors refer to this as positive sanctioning in the law.¹¹⁶ Positive sanctioning rewards good behaviour by

¹⁰⁶ See, for example, Kelsen H and Paulson SL "The Concept of the Legal Order" (1982) 27 *American Journal of Jurisprudence* 64.

¹⁰⁷ Tamanaha BA *General Jurisprudence of Law and Society* (2001) 192; McGuire CJ *Environmental Law from the Policy Perspective: Understanding How Legal Frameworks Influence Environmental Problem Solving* (2014) 182.

¹⁰⁸ Teitel R "Transitional Jurisprudence: The Role of Law in Political Transformation" (1996) 106 *Yale Law Journal* 2009.

¹⁰⁹ For an overview, see Weigert KM "Social Justice: Historical and Theoretical Considerations" in Wright JD (ed) *International Encyclopaedia of the Social & Behavioural Sciences* 2 ed (2015) Elsevier 397-400.

¹¹⁰ See in general Hart HLA *The Concept of Law* (1961, 2012 reprint) 26-39.

¹¹¹ For an overview, see Rubin EL "Law and the Methodology of Law" (1997) 3 *Wisconsin Law Review* 521.

¹¹² Austin J *The Province of Jurisprudence Determined* (1995) 24. For a more recent discussion, see Schauer F "Was Austin Right After All? On the Role of Sanctions in a Theory of Law" (2010) 23 *Ratio Juris* 1.

¹¹³ Yankah EN "The Force of Law: The Role of Coercion in Legal Norms" (2008) 42 *University of Richmond Law Review* 1195.

¹¹⁴ Austin J *The Province of Jurisprudence Determined* (1995) 158.

¹¹⁵ Berger-Walliser G "The Past and Future of Proactive Law: An Overview of the Development of the Proactive Law Movement" in Gerlinde Berger-Walliser and Kim Østergaard (eds) *Proactive Law in a Business Environment* (2012) 13-31.

¹¹⁶ Baldwin DA "The Power of Positive Sanctions" (1971) 24 *World Politics* 19; Freiberg A "Reward, Law and Power: Toward a Jurisprudence of the Carrot" (1986) 19 *Australian & New Zealand Journal of Criminology* 91.

permitting a say in how scarce resources are to be distributed and used.¹¹⁷ Government power is not expressed through the use of force, but rather by conferring benefits.¹¹⁸

The Law comprises a complex of regulatory mechanisms. The range of devices available to the law is far wider than just what is on the statute book. They range from measures to remedy grievances, or provide penal sanctions, through measures to achieve distribution or to regulate particular behaviours, to private arrangements.¹¹⁹ The law is reflected through various tools including codes, statutes and policy. One such often-used tool is legislation.

4.3. Basic Questions Determining Applicable Legal Framework

Determining which laws would apply to a specific project will depend on very specific circumstances present in each case. In general, four basic questions must be answered to determine the legal framework applicable to a proposed bioremediation project.

What is being grown?

The type of plant selected for the bioremediation of the degraded mining land will determine which legislation is applicable. For example, legislation regulating invasive species, water use, use of fertilisers, etc. may be relevant, depending on the crop selection. Complex environmental legal processes, permitting requirements and general obligations may be associated with the cultivation of the proposed plant species.¹²⁰

¹¹⁷ Freiberg A "Reconceptualizing Sanctions" (1987) 25 *Criminology* 223; In the natural resource context, see in general Hénane I, Hadouaj S, Ghédira K and Ferchichi A "Modelling Organizational and Institutional Aspects in Renewable and Natural Resources Management Context" in Baldoni M, Chopra AK, Son TC, Hirayama K and Paolo T (eds) *PRIMA 2016: Principles and Practice of Multi-Agent Systems* (2016) 333-343.

¹¹⁸ Lockwood M, Davidson J, Curtis A, Stratford E and Griffith R "Governance Principles for Natural Resource Management" (2010) 23 *Society and Natural Resources* 986.

¹¹⁹ Freiberg A "Reward, Law and Power: Toward a Jurisprudence of the Carrot" (1986) 19 *Australian & New Zealand Journal of Criminology* 91.

¹²⁰ See section 5.1 below for a detailed discussion of the environmental considerations.

Where is the site located?

Knowledge about where the crops are to be grown is crucial to identify the relevant applicable spatial planning and land use management laws. The location of the site will determine the applicable zoning requirements, land use restrictions and authorisations needed to proceed with the growing or processing of the selected crop. It is also necessary to determine how the proposed agricultural and processing activities fit in with the municipality's integrated development plan and spatial development framework.¹²¹

Why are the crops grown?

If the crops are grown mainly to rehabilitate degraded mining land, this bioremediation proposal must be included in and align with the mining right holder's rehabilitation plan.¹²² Conversely, if the crops are grown largely to provide an alternative economic industry and encourage social development, the project must be included in the mining right holder's social and labour plan.¹²³ The social and labour plan must align with the municipality's integrated development plan and identify local economic development initiatives supported by the mining right holder.¹²⁴ Of course, it is possible that the planting of the crops should serve both purposes – rehabilitating degraded mining land and creating a complex and diversified local economy.

Who are the stakeholders?

The applicable law will also be determined by who the stakeholders are – those participating in the FFI, such as the fibre-farmers and the landowners, as well as the persons, neighbours and communities affected. As regards consequences for landownership, for instance, the outcomes would be different if the mining right holder also owns the land, as opposed to a scenario where the mining right holder and the landowner are two different entities.¹²⁵ Furthermore, it would make a

¹²¹ See section 5.3.1 below for a detailed discussion of the role of municipalities and their land use requirements.

¹²² See Section 5.1.1.4 below for a discussion of the mining right holder's closure and rehabilitation plan.

¹²³ See Section 5.3.2 below for a discussion of the mining right holder's Social and Labour Plan.

¹²⁴ See Section 5.3.2 for a discussion of the alignment between the Social and Labour Plan of the mining right holder and the integrated development plan of the municipality.

¹²⁵ See Section 5.2 below for a more detailed discussion of the relationship between the mining right holder and the landowner.

difference whether the land is under a lease agreement or not; and whether the landowner is a natural person, juristic person, or an indigenous community.¹²⁶ The applicable laws will determine whether consultation with other parties or consent of those parties are required before bioremediation can commence.¹²⁷ Another stakeholder is the state: for example, the ministries dealing with mining, agriculture, land and environment, labour, etc.

Once the factual landscape of the proposed bioremediation project is clarified by answering the above questions, the applicable legal rules can be scoped. The following section analyses the legislation applicable to the specific issues raised above, without attempting to make site-specific or project-specific suggestions.

5. Legal Interests and the need for reform

This section focuses on the legal interests involved in mine land rehabilitation and promoting a diversified post-mining economy. It deals with relevant environmental provisions, land use requirements and stakeholder involvement. A schedule of the most relevant legislation and policy documents is available in Annexure A to this report. In addition, Annexure B contains a synopsis of the relevant application procedures: those for a mining right, environmental authorisation, water use licence and rezoning.¹²⁸ These processes occur either simultaneously or consecutively and have an impact on the commencement of mining, but also on the parameters for mining and the end of the mine.

Mining companies are already exploring different rehabilitation options to change the perception of the industry and to leave behind a more positive legacy. However, achieving changes in behaviour and ways of thinking about mine land rehabilitation practices requires buy-in from various stakeholders. The stakeholders would want to know how they can benefit from the FFI. In other words, how can established structures of mine rehabilitation and closure be renegotiated to benefit the

¹²⁶ Also see fn 21 above and Section 5.4 below regarding consultation with the community and when consent is required.

¹²⁷ Also see Section 5.4 below regarding community consent.

¹²⁸ This research was done as part of a MLiA project focusing on co-operative government and intergovernmental relations in the mining industry. See, in general, Van Schalkwyk L (ed) *Co-ordinating Governance for Mining: Streamlining Systems for Improved Intergovernmental Relations* (Juta, 2019); Van Schalkwyk L "Coordinating Mineral Regulation" *Mineral Law in Africa* <<http://www.mlia.uct.ac.za/coordinating-mineral-regulation>> (accessed 25-10-2019).

stakeholders? The mining right holder is the pivotal player in all of these processes. The sections below examine how the mining right holder's role intersects with other interests or stakeholders in implementing the proposed FFI.

5.1. Environmental Provisions

The scope of the area of Environmental Law is exceptionally broad.¹²⁹ This can be clearly seen from the definition of "environment" contained in the National Environmental Management Act (NEMA).¹³⁰ Environmental law is generally categorised into three main sectors.¹³¹ The first relates to laws governing the management of natural resources such as fresh water, biodiversity, minerals and soil to name a few.¹³² Second are laws dealing with pollution control and waste management.¹³³ The third sector focuses on laws dealing with land use planning and development.¹³⁴ The legislation applicable to these three sectors frequently overlaps, as one scenario or activity often triggers the application of laws governing all three sectors. These sectoral environmental laws fall under the umbrella of framework environmental laws which apply across all three of the abovementioned sectors.¹³⁵

This array of environmental laws contains many regulatory tools of potential relevance to environmental compliance on mine closure and beyond. These

¹²⁹ Glazewski J and Plit L "Mineral and Petroleum Resources" in Glazewski J (ed) *Environmental Law in South Africa* (2018) 1-11.

¹³⁰ Act 107 of 1998. Section 1 of NEMA defines "environment" as follows:

"the surroundings within which humans exist and that are made up of -

- (i) the land, water and atmosphere of the earth;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing the influence human health and well-being."

¹³¹ See e.g. Glazewski J and Plit L "Mineral and Petroleum Resources" in Glazewski J (ed) *Environmental Law in South Africa* (2018) 1-12; Fuggle RF and Rabie MA *Environmental Concerns in South Africa: Technical and Legal Perspectives* (1983) 32.

¹³² These would include the following main national laws: National Water Act 36 of 1998; National Environmental Management: Biodiversity Act 10 of 2004; National Environmental Management: Protected Areas Act 57 of 2003; Mineral and Petroleum Resources Development Act No. 28 of 2002; and the Conservation of Agricultural Resources Act 43 of 1983.

¹³³ These would include the following main national laws: National Environmental Management: Waste Act 59 of 2008; National Environmental Management: Air Quality Act 39 of 2004; and the National Water Act 107 of 1998.

¹³⁴ These would include the following main laws: Spatial Planning and Land Use Planning Act 16 of 2013; Local Government: Municipal Systems Act 32 of 2000; Provincial Land Use Planning Acts and Ordinances; and Municipal Planning By-Laws.

¹³⁵ These would include the National Environmental Management Act 107 of 1998 and the Environment Conservation Act 73 of 1989.

regulatory tools include the prescription of principles and objectives which inform decision making under the law; the development and adoption of planning frameworks which similarly guide the implementation of the law; comprehensive permitting processes which apply to certain identified activities, with such permits¹³⁶ needing to be secured prior to undertaking these activities; environmental impact assessment processes which generally inform decision-making in the context of the above permitting regimes; duty-of-care provisions compelling a diverse array of persons to undertake measures to prevent environmental degradation and pollution; and compliance and enforcement provisions, with the default measures for legislative enforcement generally being criminal sanctions.¹³⁷

The environmental laws are complemented by certain fiscal laws which provide incentives to mining companies to take certain actions, such as income tax deductions available in respect of contributions to mining rehabilitation companies or trusts.¹³⁸ In *Benhaus Mining v CSARS*,¹³⁹ the Supreme Court of Appeal affirmed that these tax incentives include allowances for the costs for decommissioning mines and environmental rehabilitation costs.¹⁴⁰ This issue of fiscal incentives and its potential role in the FFI context are explored further in Section 5.2.2 below.

In the past, environmental aspects of mining operations were regulated in terms of the Mineral and Petroleum Resources Development Act,¹⁴¹ as well as the National Environmental Management Act.¹⁴² However, in December 2014,¹⁴³ the Departments of Mineral Resources,¹⁴⁴ Environmental Affairs,¹⁴⁵ and Water and Sanitation,¹⁴⁶ (as they were then called) reached an agreement in the form of the

¹³⁶ "Permits" is used here in a generic sense and would include licences, permits, authorisations, permissions, approvals and certificates.

¹³⁷ Kidd M *Environmental Law* 2 ed (2011) 269; Paterson A and Kotze LJ "Towards a more Effective Environmental Compliance and Enforcement Regime for South Africa" in Paterson A and Kotze LJ (eds) *Environmental Compliance and Enforcement in South Africa Legal Perspectives* (2009) 375.

¹³⁸ Section 37A of the Income Tax Act 58 of 1962.

¹³⁹ *Benhaus Mining v CSARS* (165/2018) 2019 ZASCA 17.

¹⁴⁰ Para 48.

¹⁴¹ Act 28 of 2002.

¹⁴² Act 107 of 1998.

¹⁴³ Department of Mineral Resources "Minerals and Petroleum Board" (2011) *Department of Mineral Resources* (accessed 15-07-2018) – copy on file with authors.

¹⁴⁴ On 14 June 2019, with the reconfiguration of the national departments by President Cyril Ramaphosa, this department was renamed the Department of Mineral Resources and Energy.

¹⁴⁵ On 14 June 2019, with the reconfiguration of the national departments by President Cyril Ramaphosa, this department was renamed the Department of Environment, Forestry and Fisheries.

¹⁴⁶ On 14 June 2019, with the reconfiguration of the national departments by President Cyril Ramaphosa, this department was renamed the Department of Human Settlements, Water and Sanitation.

“One Environmental System” for the environmental regulation of mining.¹⁴⁷ The One Environmental System seeks to ensure set time-frames for the consideration and issuing of mining permits, water use licences and environmental authorisations.¹⁴⁸ The goal is to synchronise the issuing processes of such permits, licences and authorisations to ensure that policies and programmes of different government departments are pursued in a coordinated manner.¹⁴⁹ The One Environmental System was rolled out to replace the previous disjointed and ineffective system of environmental management in the mining sector.¹⁵⁰

In terms of the new system, the Department of Environment, Forestry and Fisheries remains responsible for the regulation of environmental obligations in the mining industry.¹⁵¹ The Department of Mineral Resources and Energy is the implementing authority for these regulations¹⁵² and will issue environmental authorisations¹⁵³ and waste management licences in the context of mining operations.¹⁵⁴ The Department of Environment, Forestry and Fisheries is the appeal authority for these environmental authorisations,¹⁵⁵ while the Department of Human Settlements, Water and Sanitation issues water use licences for mining activities.¹⁵⁶ All three departments have agreed to fix and synchronise the timeframes for the consideration and issuing of the authorisations in terms of the relevant pieces of

¹⁴⁷ For a full evaluation of the One Environmental System see Humby T “‘One Environmental System’: Aligning the Laws on the Environmental Management of Mining in South Africa” (2015) 33 *Journal of Energy & Natural Resources Law* 110.

¹⁴⁸ The One Environmental System was given effect to through a swathe of legal reform, including: National Environmental Management Amendment Act 62 of 2008; Mineral and Petroleum Resources Development Amendment Act 49 of 2008; National Environmental Laws Second Amendment Act 30 of 2013; and the National Environmental Law Amendment Act 25 of 2014. Certain additional refinements are still anticipated through amendments contained in the Mineral and Petroleum Resources Development Amendment Bill 15 of 2013.

¹⁴⁹ Mpinga S “The One Environmental System for the mining industry: Has it given rise to intra-governmental conflict of interest?” (5-12-2017) *MLIA* <<http://www.mlia.uct.ac.za/news/one-environmental-system-mining-industry-has-it-given-rise-intra-governmental-conflict-interest>> (accessed 12-07-19); Humby T “‘One Environmental System’: Aligning the Laws on the Environmental Management of Mining in South Africa” (2015) 33 *Journal of Energy & Natural Resources Law* 110 128.

¹⁵⁰ For a discussion on the shortcomings of this system see Centre for Environmental Rights “Mining Companies Launch their First Attacks on the One Environmental System” (17-06-2015) *Centre for Environmental Rights* <<http://cer.org.za/news/mining-companies-launch-their-first-attacks-on-the-one-environmental-system>> (accessed 14-02-2018).

¹⁵¹ National Environmental Management Act 107 of 1998 (NEMA), s 50A(2)(b).

¹⁵² NEMA, s 50A(2)(b).

¹⁵³ NEMA, s 50A(2)(c).

¹⁵⁴ In terms of the National Environmental Management: Waste Act 58 of 2008.

¹⁵⁵ NEMA, s 50A(2)(c) read with s 43.

¹⁵⁶ In terms of the National Water Act 36 of 1998. See Section 5.1.2 below for a more detailed discussion of Water Use Licences.

legislation.¹⁵⁷ The One Environmental System is still quite new and the success thereof has not yet been proven. There is some scepticism about the prospects of this experimental model of co-operative government.¹⁵⁸

A comprehensive analysis of the above environmental regime is not possible within the scope of this research. The main relevant environmental legislation and the interrelationship between the main permitting process potentially relevant for purposes of an FFI are briefly outlined in Annexures A and B respectively. The following discussion is limited to environmental legislative provisions applicable to three aspects raised above. These relate to environmental authorisations, water use licences and cultivating alien invasive species. Land use planning issues, which do fall under the broad rubric of environmental law, predominantly fall under the domain of local government and are accordingly addressed in Section 5.3 below dealing with municipalities.

5.1.1. Environmental Authorisation

NEMA prescribes that if a person wishes to undertake a 'listed activity', the potential impacts of such an activity must be considered, investigated, assessed and reported on to the competent authority or the Minister responsible for mineral resources, and an environmental authorisation secured, prior to the person commencing with such an activity.¹⁵⁹ These listed activities were promulgated in a series of listing notices by the erstwhile Minister of Environmental Affairs and the provincial Ministers of the Executive Councils (MECs) in 2014. Listing Notice 1¹⁶⁰ lists activities undertaken anywhere in South Africa that require the applicant to prepare and submit to the competent authority for consideration a basic assessment report, environmental management programme and where applicable a closure plan, prior to the grant of an environmental authorisation. Listing Notice 2¹⁶¹ lists activities similarly

¹⁵⁷ NEMA, s 50A(2)(d).

¹⁵⁸ See, in general, Humby T "'One Environmental System': Aligning the Laws on the Environmental Management of Mining in South Africa" (2015) 33 *Journal of Energy & Natural Resources Law* 110; Centre for Environmental Rights "Mining Companies Launch their First Attacks on the One Environmental System" (17-06-2015) *Centre for Environmental Rights* <<http://cer.org.za/news/mining-companies-launch-their-first-attacks-on-the-one-environmental-system>> (accessed 14-02-2018).

¹⁵⁹ NEMA, s 24(1).

¹⁶⁰ Listing Notice 1: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D (GN R983 in GG 38282 of 04-12-2014).

¹⁶¹ Listing Notice 2: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D (GN R984 in GG 38282 of 04-12-2014).

undertaken anywhere in South Africa that require the applicant to prepare a scoping report, environmental impact assessment report, environmental management programme and where applicable a closure plan, prior to the grant of an environmental authorisation. Listing Notice 3¹⁶² lists activities undertaken in certain areas in South Africa, that require the applicant to prepare and submit to the competent authority for consideration a basic assessment report, environmental management programme and where applicable a closure plan, prior to the grant of an environmental authorisation.

Several activities associated with the initial prospecting and then mining activities are listed in these notices.¹⁶³ So too are activities associated with the decommissioning of mining activities¹⁶⁴ and where the throughput of mining activities decreases by 90 per cent or more over a five-year period.¹⁶⁵ An environmental authorisation would therefore be required both for the initial prospecting and mining activities, and it appears again when the mine transitions to an FFI. This may result in the need for two environmental authorisations granted at two different occasions, the first when the initial mining activity takes place, and the second when the mine transitions to an FFI. The need for two different environmental authorisations would be precluded if the initial environmental authorisation covered both the mining and FFI activity, or the mining company was able to successfully amend the initial environmental authorisation to include the FFI activity.¹⁶⁶

As certain of these activities appear in Listing Notice 2, the mining company would be required to prepare a scoping report, environmental impact assessment report,

¹⁶² Listing Notice 1: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D (GN R985 in GG 38282 of 04-12-2014).

¹⁶³ See for example: Activities 20 and 21 on Appendix 1 of Listing Notice 1: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D of the National Environmental Management Act 107 of 1998 (GN R983 in GG 38282 of 04-12-2014); and Activities 17, 19 and 21 of Listing Notice 2: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D of the National Environmental Management Act 107 of 1998 (GN R983 in GG 38282 of 04-12-2014).

¹⁶⁴ Activity 22 on Appendix 1 of Listing Notice 1: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D of the National Environmental Management Act 107 of 1998 (GN R983 in GG 38282 of 04-12-2014).

¹⁶⁵ Activity 22 on Appendix 1 of Listing Notice 1: List of Activities and Competent Authorities Identified in terms of Sections 24(2) and 24D of the National Environmental Management Act 107 of 1998 (GN R983 in GG 38282 of 04-12-2014). An exception would apply if the competent authority agreed that these activities do not constitute closure.

¹⁶⁶ The process to amend an environmental authorisation is governed by Regulations 27-33 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

environmental management programme and a closure plan, prior to the grant of any environmental authorisation. The competent authority to issue the environmental authorisation in the context of mining activities is the Minister of Mineral Resources and Energy.¹⁶⁷ Any environmental authorisation must be obtained before the mining company obtains any form of mining permission under the MPRDA.

As is highlighted above, the process to obtain an environmental authorisation generally comprises of the following four main components: preparation and approval of a scoping report; preparation and submission of an environmental impact assessment report; preparation and submission of an environmental management programme, and preparation and submission of a rehabilitation and closure plan. Each of these components is examined below. This is followed by a discussion of public participation which is integrated throughout the process for securing an environmental authorisation.

5.1.1.1. Scoping Report¹⁶⁸

A scoping report is to be prepared and submitted by the applicant to the competent authority prior to the Environmental Impact Assessment (EIA) process.¹⁶⁹ The Scoping Report must be submitted by the applicant within forty-four days of submitting their initial application to the competent authority.¹⁷⁰ The primary purpose of the report is to determine the 'scope' of the EIA needed for the applicant's proposed activity.¹⁷¹ A scoping report must provide details about a proposed activity, including the possible and practical alternatives that are likely to have fewer impacts on the environment.¹⁷² The scoping report must also include a description of laws, policies and documents¹⁷³ in the context of which the proposed activity is

¹⁶⁷ NEMA, s 24C(2A).

¹⁶⁸ This section is an excerpt from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

¹⁶⁹ Regulation 21 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014). The EIA process is discussed in more detail under Section 5.1.1.2 below.

¹⁷⁰ Regulation 21(1) of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

¹⁷¹ Department of Environmental Affairs and Tourism *General Guide to the Environmental Impact Assessment Regulations* (2006) 10.

¹⁷² Item 1, Appendix 2 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

¹⁷³ These documents include plans, guidelines, spatial tools, municipal development planning frameworks and instruments. See Item 2(e), Appendix 2 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

considered.¹⁷⁴ Anticipated environmental issues and impacts must be highlighted in the report.¹⁷⁵ The report must also specify how the EIA will be conducted and how the potential environmental impacts will be addressed.¹⁷⁶

The scoping report must demonstrate that a public participation process has taken place for a period of not less than thirty days, to promote effective decision-making.¹⁷⁷ Details of the public participation process, including its aim and outcomes must be included in the scoping report.¹⁷⁸

Public participation plays an important role in promoting transparency, which is one of the essential elements that the competent authority has to consider during decision-making relating to approval of environmental authorisations. By being transparent, an environmental authorisation process is consistent with the Promotion of Access to Information Act (PAIA)¹⁷⁹ which seeks to promote people's rights to have access to existing information,¹⁸⁰ as required by the Constitution.¹⁸¹

Upon receipt of the scoping report, the competent authority has forty-three days to make its decision on whether or not to approve the scoping report, and only if it is approved, may the applicant proceed onto the next component of the process, preparing and submitting the environmental impact assessment report.¹⁸²

¹⁷⁴ Item 2(e), Appendix 2 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

¹⁷⁵ Item 1(d), Appendix 2 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

¹⁷⁶ Item 1(f), Appendix 2 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

¹⁷⁷ Regulation 21(1) of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014). Also see Section 5.4.1 below regarding community consultation.

¹⁷⁸ Regulation 21(1) of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014). See Humby T "The Bengwenyama Trilogy: Constitutional Rights and the Fight for Prospecting in Community Land" (2012) 15 *PELJ* 166 166-183. Also see *The Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* 1999 2 All SA 381 (A).

¹⁷⁹ Act 2 of 2000.

¹⁸⁰ Long title of PAIA states that the Act gives effect to the constitutional right of access to information that is required for the exercise or protection of rights, whether said information is held by the State or another person.

¹⁸¹ Constitution, s 32.

¹⁸² Regulation 22(a) of the Environmental Impact Assessment Regulations, 2014 (GN R 982 GG 38282 of 04-12-2014).

5.1.1.2. *Environmental Impact Assessment Report*¹⁸³

The MPRDA, as the principal legislation regulating mineral resources in South Africa, highlights the importance of environmental protection.¹⁸⁴ The MPRDA stipulates that all mining-related activities require an EIA, as provided for in the National Environmental Management Act (NEMA).¹⁸⁵ NEMA provides that an applicant for an environmental authorisation must conduct a comprehensive EIA,¹⁸⁶ before performing any activity that has the potential to cause degradation to the environment.¹⁸⁷

The EIA process occurs before an environmental authorisation is granted by the Minister of Mineral Resources and Energy – at the planning and design stage of the proposed mining project. An EIA can be defined as a process by which future environmental impacts of planned mining operations are evaluated and communicated.¹⁸⁸ The decision to grant an environmental authorisation relies on the EIA to prevent or mitigate the adverse impacts of mining activities such as water pollution.¹⁸⁹ The process also considers the socio-economic impacts of mining projects.¹⁹⁰ Thus, an EIA is supposed to anticipate and highlight the consequences of planned mining projects.¹⁹¹

Similarly, before commencing large-scale agriculture activities on the old mine site as part of the FFI, and EIA will be required. During this assessment, the same considerations referred to above will be relevant.

¹⁸³ This section is an excerpt from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

¹⁸⁴ Section 2(h) of the MPRDA.

¹⁸⁵ Act 107 of 1998.

¹⁸⁶ Section 24(1) of NEMA.

¹⁸⁷ Section 24 of NEMA as amended by the National Environmental Management Laws Amendment Act 25 of 2014. EIAs were provided under the MPRDA prior to the 2014 amendment of NEMA. See s 39 (1) of MPRDA, 2002.

¹⁸⁸ Munn RE *Environmental Impact Assessment: Principles and Procedures* 2 ed (1979) 9; Jay S, Jones C, Slinn P and Wood C "Environmental Impact Assessment: Retrospect and Prospect" (2007) 27 *Environmental Impact Assessment Review* 287 288; Momtaz S and Kabir Z *Evaluating Environmental and Social Impact Assessment in Developing Countries* 89.

¹⁸⁹ Wathern P "An Introductory Guide to EIA" in Wathern P (ed) *Environmental Impact Assessment: Theory and Practice* (1988) 1 21.

¹⁹⁰ Boer A, Fritschi L and O'Beirne S "Human Health in Environmental Assessment and Management" in Strydom HA and King ND (eds) *Environmental Management in South Africa* (2009) 810; Wathern P "An Introductory Guide to EIA" in Wathern P (ed) *Environmental Impact Assessment: Theory and Practice* 21.

¹⁹¹ Morgan RK "Environmental Impact Assessment: The State of the Art" (2012) 30 *Impact Assessment and Project Appraisal* 5 6-7.

Following the acceptance of the scoping report, the applicant has 160 days to conduct an EIA and submit a report thereof to the competent authority.¹⁹² The primary purpose of an EIA report is to demonstrate that the applicant for an environmental authorisation has given serious consideration to the environmental impacts of a planned mining project, how such impacts will be mitigated and outcomes that may occur upon closure.¹⁹³ Thus, the report must highlight how the planned activity complies with existing policies and laws.¹⁹⁴ It is also necessary to identify the area where the project will take place, as indicated in the scoping report while highlighting the importance of the project.¹⁹⁵ Identifying the project area helps the decision-makers to establish whether it is feasible to authorise any mining project in the area.¹⁹⁶

The EIA report is only accepted if consultation with various stakeholders has taken place,¹⁹⁷ thus promoting participation and transparency that are essential for effective accountability. As explained below, an environmental management programme is required in addition to the EIA report for the approval of an environmental authorisation.

5.1.1.3. Environmental Management Programme¹⁹⁸

Where an EIA is required before a decision can be made to grant an environmental authorisation, the applicant must prepare an Environmental Management Programme (EMProg).¹⁹⁹ An EMProg provides details on proposed measures to protect the environment and to manage, mitigate or repair the environmental

¹⁹² Regulation 23(a) of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

¹⁹³ Item 1(2), Appendix 3 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

¹⁹⁴ Item 2(a), Appendix 3 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

¹⁹⁵ Item 2(b), Appendix 3 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

¹⁹⁶ Dudka S and Adriano DC "Environmental Impacts of Metal Ore Mining and Processing: A Review" (1997) 26 *Journal of Environmental Quality* 590 590-599.

¹⁹⁷ Item 2, Appendix 3 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282) states that the EIA is to be done through a process that can be rendered as consultative.

¹⁹⁸ This section is an excerpt from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

¹⁹⁹ Section 24N(1A) of NEMA.

impacts²⁰⁰ identified in the EIA report.²⁰¹ Such information must include information on the expert(s)²⁰² who prepared the EMProg.²⁰³ An EMProg must also identify the impacts and risks of a planned project that “need to be avoided, managed and mitigated”²⁰⁴ throughout the development phases.²⁰⁵ Furthermore, the EMProg needs to provide for environmental impact actions which detail how the environmental risks will be avoided, mitigated or managed.²⁰⁶ The EMProg must explain how the impact management actions will be implemented,²⁰⁷ and the frequency of monitoring said actions.²⁰⁸ Similarly, time frames within which the impact management will be implemented,²⁰⁹ and the persons responsible for the monitoring of such management must be indicated.²¹⁰

On submission of the EIA report and the EMProg, the Minister of Mineral Resources and Energy has 107 days within which to decide whether or not to grant the environmental authorisation.²¹¹ Once granted, the holder of the environmental authorisation must comply with it and any conditions contained therein, and give effect to the approved EMProg. Provision is made to enable the holder of the environmental authorisation to apply to amend it²¹² or the EMProg.²¹³ This may

²⁰⁰ See s 24N(2)(a) of NEMA which provides that these include “environmental impacts or objectives in respect of:

- (i) planning and design;
- (ii) pre-construction and construction activities;
- (iii) the operation or undertaking of the activity in question;
- (iv) the rehabilitation of the environment; and
- (v) closure, if applicable”.

²⁰¹ Section 24N(2)(a) of NEMA.

²⁰² Environmental Assessment Practitioner.

²⁰³ Item 1(1)(a)(ii), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²⁰⁴ Identified through the EIA.

²⁰⁵ Item 1(d), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²⁰⁶ Item 1(f), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²⁰⁷ Item 1(g), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²⁰⁸ Item 1(h), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²⁰⁹ Item 1(j), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²¹⁰ Item 1(i), Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (GN R 982 in GG 38282).

²¹¹ R Alberts, JA Wessels, A Morrison-Saunders, MP McHenry, AR Sequeira, H Mtegha & D Doepel "Complexities with extractive industries regulation on the African continent: What has ‘best practice’ legislation delivered in South Africa?" (2017) 4 *The Extractive Industries and Society* 267 273.

²¹² Regulation 27-33 of the EIA Regulations of 2014 (GN R 982 in GG 38282)

²¹³ Regulation 37 of the EIA Regulations of 2014 (GN R 982 in GG 38282)

provide some leeway to mining companies seeking to undertake FFIs not initially anticipated when the initial environmental authorisation was granted, without the need to secure an additional environmental authorisation specifically relating to the FFI. Another aspect relating to the EMProg is the Closure and Rehabilitation Plan, discussed below.

5.1.1.4. Closure and Rehabilitation Plan

NEMA provides that the holder of a mining right must make full financial provision for the rehabilitation of the negative environmental impacts caused by mining.²¹⁴ Mining companies must apply for a closure certificate upon the termination of mining activities²¹⁵ and rehabilitation of the mine land is a requirement for issuing the closure certificate.²¹⁶

NEMA requires the process of rehabilitation to be ongoing across the different phases of the mining project.²¹⁷ The mining company must explain how this will be done in its EMProg.²¹⁸ The EMProg must account for three aspects of rehabilitation. First, in its Annual Rehabilitation Plan, the mining company must specify the steps taken to mitigate or rehabilitate the environmental impacts of the mining activities as and when they arise.²¹⁹ Second, the Final Rehabilitation, Decommissioning and Mine Closure Plan sets out the rehabilitation steps when the mining operations are winding down towards applying for a closure certificate.²²⁰ Third, the mine must account for any unanticipated, residual or latent impacts that require rehabilitation after mine closure.²²¹ Towards this end, mining companies are required to produce a Post Closure Environmental Risk Assessment Report.²²²

²¹⁴ Financial provision for prospecting, exploration, mining or production operations is provided for under s 44(aE)-(aH) read with ss 24(5)(b)(ix), 24(5)(d), 24N, 24P and 24R of NEMA; Financial Provisioning Regulations giving effect to these NEMA provisions were published in 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²¹⁵ Section 43(3) of the MPRDA.

²¹⁶ Regulation 13(2)(b) of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²¹⁷ Section 24P(1) of NEMA; Regulation 6 of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²¹⁸ Section 24N(2)-(3) of NEMA; Reg 10(a) of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²¹⁹ Section 24P(3) of NEMA; Regulation 12(1) of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²²⁰ Regulation 12(2) of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

²²¹ Section 24P(5) of NEMA.

²²² Regulation 12(3) of the Financial Provisioning Regulations, 2015 (GN R 1147 in GG 39425 of 20-11-2015).

As the other reports in this project series suggest, bioremediation can be used as a means of rehabilitation. The chosen fibrous plants can clean the soil of contaminants and stabilise the side slopes of tailings deposits.²²³ Unfortunately, current legislative requirements relating to environmental protection could prove problematic to this proposal. At present, legislation envisages that the land should be restored to its pre-mining state.²²⁴ This includes the re-establishment of endemic and biologically diverse plant species.²²⁵

There is growing recognition that it is almost impossible to return the land to its pre-mining state.²²⁶ Accordingly, new draft environmental regulations were published in May 2019.²²⁷ These draft regulations provide for land to be brought to a “sustainable end state” at closure. This indicates a shift from the traditional approach to rehabilitation. The new focus will be on a sustainable future. The proposed amendments to the environmental regulations are encouraging from the perspective of this CoP project. The proposed amendments will remove restrictions regarding biodiversity, which may better facilitate bioremediation using fibrous plants.

5.1.1.5. *Public Participation During Environmental Authorisation Process*²²⁸

As highlighted in *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others*,²²⁹ parties interested in or affected by mining are better served when their rights are acknowledged by providing an opportunity for them to participate in policy-making.²³⁰ The judgment highlighted that just

²²³ Digby Wells Environmental *Environmental Impact Assessment for Sibanye Gold Limited’s West Rand Tailings Retreatment Project* (2015) 9-12 provides an example of using vegetation as a rehabilitation approach.

²²⁴ Sections 24N(2)(f) and (7)(e) of NEMA.

²²⁵ Department of Environmental Affairs, Department of Mineral Resources, Chamber of Mines, South African Mining and Biodiversity Forum and South African National Biodiversity Institute *Mining and Biodiversity Guideline: Mainstreaming Biodiversity into the Mining Sector* (2013) 54.

²²⁶ Limpitlaw D and Briel A “Post-Mining Land Use Opportunities in Developing Countries - A Review” (2014) 114 *Journal of the Southern African Institute of Mining and Metallurgy* 899.

²²⁷ GN R 664 in GG 42464 of 17-05-2019.

²²⁸ This section is an excerpt from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context*. The work is supervised by the MLiA Chair and funded by the National Research Foundation. Also see Section 5.4.1 below regarding community consultation.

²²⁹ *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* CCT 39/10 2010 ZACC 26; 2011 4 SA 113 (CC); 2011 3 BCLR 229 (CC).

²³⁰ *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* CCT 39/10 2010 ZACC 26; 2011 4 SA 113 (CC); 2011 3 BCLR 229 (CC) para 66.

administrative action requires good faith on the part of the company when conducting the public participation process.²³¹

Public participation is provided for throughout the different components of the environmental authorisation process.²³² These provisions have, however, been subject to criticism by several commentators. The legal framework does not indicate how much input interested or affected parties are expected to make during the application process for an environmental authorisation.²³³ The extent to which input from affected or interested parties can influence decision-making is also not clear.²³⁴ Furthermore, no provision is made for any form of support to interested or affected parties to make informed decisions when commenting on proposed mining projects.²³⁵ This is exacerbated when mining companies fail to give proper consideration to affected communities' interests.²³⁶

The mining right applicant is required to give notice to interested and affected parties in such a way as to ensure that they can understand what the project entails.²³⁷ However, this provision does not necessarily guarantee that the interested or affected parties can influence the outcome of the decision-making process.

Another shortcoming in the public participation process is highlighted in *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment*

²³¹ Humby T "The Bengwenyama Trilogy: Constitutional Rights and the Fight for Prospecting in Community Land" (2012) 15 *PELJ* 166 182.

²³² Regulations 39-44 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014)

²³³ Marais M, Retief FP, Sandham LA and Cilliers DP "Environmental Management Frameworks: Results and Inferences of Report Quality Performance in South Africa" (2015) 97 *South African Geographical Journal* 83 92-93; Leonard L "Examining Environmental Impact Assessments and Participation: the Case of Mining Development in Dullstroom, Mpumalanga, South Africa" (2017) 19 *Journal of Environmental Assessment Policy and Management* 1 2 and 7.

²³⁴ Marais M, Retief FP, Sandham LA and Cilliers DP "Environmental Management Frameworks: Results and Inferences of Report Quality Performance in South Africa" (2015) 97 *South African Geographical Journal* 83 92-93; Leonard L "Examining Environmental Impact Assessments and Participation: the Case of Mining Development in Dullstroom, Mpumalanga, South Africa" (2017) 19 *Journal of Environmental Assessment Policy and Management* 1 7.

²³⁵ See Department of Environmental Affairs *Public Participation Guideline in Terms of National Environmental Management Act, 1998 Environmental Impact Assessment Regulations* (2017) 9-11. Interested and affected parties "have a right to be informed early and in an informative and proactive way regarding proposals that may affect their lives or livelihoods", but no support is given to such parties.

²³⁶ See, for instance, the Witbank-Middelburg community case study in Munnik V, Hochmann G, Hlabane M and Law S "The Social and Environmental Consequences of Coal Mining in South Africa: A Case Study" (2010) *Environmental Monitoring Group*

<https://www.bothends.org/uploaded_files/uploadlibraryitem/1case_study_South_Africa_updated.pdf> (accessed 24-10-2019) 9 and 15-16. Also see Section 5.4.1 below regarding community consultation.

²³⁷ Regulation 41(2) of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014).

and Others (Save the Vaal).²³⁸ The main issue of contention was whether an unincorporated association of landowners can raise environmental concerns when a mining right application is considered, as opposed to the consideration of the environmental authorisation application, which process was still pending.²³⁹ The argument put forward by the appellant was that the respondents had to wait for the approval of an environmental management programme before raising any environmental issues, as provided by the applicable legislation at the time.²⁴⁰ The Court ruled that administrative processes should accord proper consideration of environmental issues and how they affect people's lives at all times.²⁴¹ A safe environment can only be achieved if environmental rights are acknowledged as fundamental and justiciable human rights,²⁴² as promoted in the Constitution.²⁴³ The Court reiterated the affected party's right to be heard, especially when something as important as a safe environment is concerned.²⁴⁴

Interested and affected parties should be able to make a meaningful contribution when a mining right application is considered.²⁴⁵ This aspect is addressed in further detail in Section 5.4.1 below.

5.1.2. Water Use Licence²⁴⁶

The National Water Act²⁴⁷ (NWA) governs the management and use of "water resources",²⁴⁸ and the control of water pollution. A primary objective of the NWA is

²³⁸ *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* 1999 2 All SA 381 (A).

²³⁹ *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* 1999 2 All SA 381 (A) para 1 read with para 4.

²⁴⁰ See s 9 of the Minerals Act 50 of 1991; *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* 133/98 1999 ZASCA 9; 1999 2 All SA 381 (A) paras 13 and 16.

²⁴¹ *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* (33/98 1999 ZASCA 9; 1999 2 All SA 381 (A) para 20.

²⁴² Daly E and May JR "Learning from Constitutional Environmental Rights" in Knox JH and Pejan R (eds) *The Human Right to a Healthy Environment* (2018) 42-43; Atapattu S "The Right to a Healthy Environment and Climate Change" in Knox JH and Pejan R (eds) *The Human Right to a Healthy Environment* (2018) 266.

²⁴³ Constitution, s 24.

²⁴⁴ *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* 133/98 1999 ZASCA 9; 1999 2 All SA 381 (A) para 20.

²⁴⁵ Regulation 40 of the Environmental Impact Assessment Regulations, 2014 (GN R982 in GG 38282 of 04-12-2014); *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* CCT 39/10 2010 ZACC 26; 2011 4 SA 113 (CC); 2011 3 BCLR 229 (CC) para 66.

²⁴⁶ This section is based on excerpts from the work of Bernard Kengni, towards his doctoral thesis, entitled *Promotion of Water Sustainability through Good Environmental Governance in the South African Mining Context*. The work is supervised by the MLiA Chair and funded by the National Research Foundation.

²⁴⁷ National Water Act 36 of 1998.

²⁴⁸ The term "water resources" is broadly defined in the NWA to "include a watercourse, surface water, estuary, or aquifer", with each of these terms subsequently defined thereby ensuring that water in all

to ensure that scarce water resources are handled in ways that meet “basic human needs of present and future generations”.²⁴⁹ Within the mining context, the NWA seeks to promote water sustainability²⁵⁰ and ensure equitable access to water.²⁵¹ It does so by protecting water sources and associated ecosystems and thus preventing pollution and related degradation of water resources.²⁵² The NWA, therefore, seeks to minimise the risk of having unhealthy or contaminated water resources.²⁵³

“Water use” is defined to include taking water from a water resource; storing water; engaging in a “controlled activity”; disposing of waste in a manner which may detrimentally impact on a water resource; disposing in any manner of water which contains waste from any industrial process; and removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity.²⁵⁴ “Controlled activities” include “irrigation of any land with waste or water containing waste generated through any industrial activity”.²⁵⁵ Given the breadth of the concepts “water resources” and “water use”, activities associated with both the initial mining activities and subsequent FFIs could constitute water use. In the context of the FFIs, this water use may include either using “clean” water to irrigate bioremediation crops or using “waste water” abstracted from the mine to irrigate these crops. Water use is strictly regulated under the NWA and given the nature and extent of the potential water use, it seems likely that the mining company would need to secure a water licence prior to undertaking any form of water use.²⁵⁶

The Department of Human Settlements, Water and Sanitation (DHS,W&S) is responsible for issuing water licences. It is generally precluded from issuing such a licence before the National Water Resource Strategy has been established, a catchment management strategy in respect of the specific water resource in question have been established, a classification system for water resources has been established, the class and resource quality objectives for the water resource

components of the water cycle being included within the ambit of the definition (s 1 of NWA).

²⁴⁹ Section 2(a) of NWA.

²⁵⁰ Section 2(d) of NWA.

²⁵¹ Section 2(b) of NWA.

²⁵² Section 26 of NWA.

²⁵³ Schreiner B "Viewpoint—Why Has the South African National Water Act Been So Difficult to Implement" (2013) 6 *Water Alternatives* 239 240.

²⁵⁴ Section 21 of NWA.

²⁵⁵ Section 37(1)(a) of NWA

²⁵⁶ Section 22(1)(b) of NWA.

in question have been determined, or the Reserve for the water resource in question has been finally determined.²⁵⁷ Given the very slow implementation of many of the abovementioned components of the water management and planning, provision is however made in the NWA for the Minister to make preliminary determinations of the class and resource quality objectives or reserve for a specific water resource to enable a water licence to be issued in respect of it.²⁵⁸

When reviewing an application for a water use licence, it must take into account an array of decision-making criteria, including existing lawful water uses, the importance of the water use, the need to redress the results of past racial discrimination, the efficient and beneficial use of water in the public interest, the socio-economic impact of allowing the use of water, any applicable catchment management strategy, and the reserve, class and resource quality objectives associated with the water resource to be used.²⁵⁹ Further, the DHS&S is empowered to impose conditions relating to the quantum of water to be used, protection and management of the water resources, and the taking and storage of water.²⁶⁰

If the mining right holder proposes to use bioremediation as part of its rehabilitation plan, the water use licence granted in respect of the initial mining activity would need also to cater for the water requirements of the proposed agricultural activities. Therefore, it is relevant to consider when the mining right holder decides to include bioremediation in its rehabilitation plan. If it is part of the plan from the commencement of mining activities, the water use licence application would need to include the use of water for the proposed agricultural purposes.

The situation would be different if the bioremediation is only introduced in the rehabilitation plan at a later stage. This is because the water-use requirements of a mining project differ from those of an agricultural initiative. Therefore, the mining company cannot rely on the water use licence issued initially if that application did not include a reference to water use for the proposed agricultural activities. Under

²⁵⁷ Section 22(5) of NWA.

²⁵⁸ Section 14 (Preliminary Determinations of Class and Resource Quality Objectives) and s 17 (Preliminary Determination of Reserve) of NWA.

²⁵⁹ Section 27 of NWA.

²⁶⁰ Section 29 of NWA.

these circumstances, an additional water use licence for the agricultural activities may be required.

It is also worth noting that the NWA contains extensive provisions seeking to control water pollution and protect the country's limited freshwater resources. For instance, the NWA imposes a duty on person who own, control, occupy or use land to take measures to prevent pollution of water resources.²⁶¹ If these measures are not taken, the water authorities may itself do whatever is necessary to prevent the pollution or to remedy its effects, and to recover all reasonable costs from the persons responsible for the pollution.²⁶² Non-compliance with this duty constitutes an offence under the NWA.²⁶³ Furthermore, persons involved in mining activities are required to take necessary steps to ensure that water used in mining operations is processed in such a way that it can serve other purposes. The processing includes recycling water for human use or irrigation.²⁶⁴ Installations and dams for water recycling must be designed to prevent "[s]pillage, seepage or release" of contaminated waters to avoid further pollution of the natural environment.²⁶⁵

5.1.3. Alien Invasive Species

Given the significant threats alien and invasive species pose to South Africa's biological resources, the Government has introduced legislation to deal with regulating, controlling and eradicating them where necessary. The primary contemporary legislation regulating alien and invasive species is the National Environmental Management: Biodiversity Act²⁶⁶ (NEMBA) which is administered by the Department of Environment, Forestry and Fisheries, and the *Alien and Invasive Species Regulations*²⁶⁷ and *Alien and Invasive Species Lists*²⁶⁸ published thereunder, containing lists of alien and invasive species which are subject to nuanced management and control measures.

²⁶¹ Section 19(1) of NWA.

²⁶² Section 19 (3)-(8) of NWA.

²⁶³ Section 151(1)(i) and (j) of NWA.

²⁶⁴ Regulation 7(f) of the Regulations on Use of Water for Mining and Related Activities Aimed at the Protection of Water Resources (GN R 77 in GG 32935 of 12-02-2010).

²⁶⁵ Regulation 7(f) of Regulations on Use of Water for Mining and Related Activities Aimed at the Protection of Water Resources (GN R 77 in GG 32935 of 12-02-2010).

²⁶⁶ See specifically ch 5 of the National Environmental Management: Biodiversity Act 10 of 2004.

²⁶⁷ GN R 598 in GG 37885 of 01-08-2014.

²⁶⁸ GN 599 in GG 37885 of 01-08-2014 (as amended).

“Alien species” are defined in NEMBA as a species that is not indigenous to South Africa, or an indigenous species which spreads outside of its natural distribution range in a particular part of South Africa through human intervention.²⁶⁹ “Invasive species” are in turn defined as species which spreads outside of its natural distribution range and which does or may threaten ecosystems, habitats and other species situated there, and which may result in economic harm, environmental harm or harm to human health.²⁷⁰

Any person wanting to undertake an array of “restricted activities”²⁷¹ relating to an alien species is generally required to obtain a permit prior to doing so from the Minister of Environment, Forestry and Fisheries.²⁷² NEMBA and the *Alien and Invasive Species Regulations* outline the permitting process which includes provision for mandatory risk assessment.²⁷³ In addition to securing the relevant permit, any person undertaking a restricted activity is subject to a duty of care to comply with any conditions prescribed in the permit and to take all steps necessary to prevent or minimise harm to biodiversity.²⁷⁴ In the event of non-compliance with the duty of care, the authorities can issue a directive to the person, and should they fail to comply with the directive, the authorities can then undertake the relevant measures and recover any costs incurred in doing so from the defaulter.²⁷⁵ The Minister of Environment, Forestry and Fisheries has exempted certain alien species from the above scheme by listing broad categories of exempt alien species in the *Alien and Invasive Species Lists*.²⁷⁶ The Minister of Environment, Forestry and Fisheries has also published a list of species in respect of which certain restricted activities are entirely prohibited in the *Alien and Invasive Species Lists*.²⁷⁷ Any mining company undertaking an FFI would be well advised to consult these lists when choosing their bioremediation crop to ascertain whether it constitutes a listed

²⁶⁹ Section 1 of NEMBA.

²⁷⁰ Section 1 of NEMBA.

²⁷¹ The term ‘restricted activity’ is exceptionally broadly defined to include importing, possessing, growing, breeding, conveying, moving, translocating, selling, buying, receiving, giving, donating, acquiring and disposing any species (s 1 of NEMBA).

²⁷² Section 65 read with s 87A(1)(c) of NEMBA.

²⁷³ Chapter 8 of NEMBA read together with chs 5-8 of the *Alien and Invasive Species Regulations* (GNR 598 in GG 37885 of 01-08-2014).

²⁷⁴ Section 69 of NEMBA.

²⁷⁵ Section 69 of NEMBA.

²⁷⁶ Section 66 of NEMBA read together with Listing Notice 2 (GN 599 in GG 37885 of 01-08-2014).

²⁷⁷ Section 67 of NEMBA read together with Listing Notice 4 (GN 599 in GG 37885 of 01-08-2014).

alien species, exempt alien species or prohibited alien species, and comply with the relevant applicable legal obligations.

Invasive species are subject to more stringent control. As in the case of alien species, any person undertaking a restricted activity in respect of a listed invasive species, must secure a permit from the Minister of Environment, Forestry and Fisheries prior to doing so.²⁷⁸ The Minister is also empowered to prohibit certain activities relating to listed invasive species²⁷⁹ and exempt certain persons from having to secure the relevant permit in respect of other listed invasive species.²⁸⁰ This scheme has resulted in the development of a complex set of categories of invasive species each subject to nuanced forms of regulation. These species are jointly listed in the *Alien and Invasive Species Lists*.²⁸¹ Category 1a listed invasive species must generally be combatted and eradicated.²⁸² Category 1b listed invasive species must generally be controlled.²⁸³ Category 2 listed invasive species may be permitted on occasion - certain restricted activities in relation to them require a permit.²⁸⁴ Category 3 listed invasive species are either exempt or prohibited – respectively allowing for certain restricted activities to be undertaken without a permit and others being entirely prohibited.²⁸⁵ A similar duty of care to that applicable to alien species applies in respect of listed invasive species.²⁸⁶ Furthermore, certain government authorities must prepare invasive species monitoring, control and eradication plans to guide their actions.²⁸⁷ Landowners on whose land any category of listed invasive species occurs, are compelled to control the species in accordance with the relevant plan.²⁸⁸ As in the context of alien species, any mining company undertaking an FFI would be well advised to consult these lists when choosing their bioremediation crop to ascertain whether it

²⁷⁸ Section 65 of NEMBA. The relevant permitting process is set out in ch 8 of NEMBA read together with chs 5-8 of Alien and Invasive Species Regulations (GN R 598 in GG 37885 of 01-08-2014).

²⁷⁹ Section 71A of NEMBA.

²⁸⁰ Section 71(3) of NEMBA.

²⁸¹ Section 70(1) of NEMBA read together with Listing Notice 1 and 3 (GN 599 in GG 37885 of 01-08-2014).

²⁸² Section 75 of NEMBA read together with regulation 2 of Alien and Invasive Species Regulations (GNR 598 in GG 37885 of 01-08-2014).

²⁸³ Section 75 of NEMBA read together with regulation 3 of Alien and Invasive Species Regulations (GNR 598 in GG 37885 of 01-08-2014).

²⁸⁴ Regulation 4 of Alien and Invasive Species Regulations (GN R 598 in GG 37885 of 01-08-2014).

²⁸⁵ Regulation 5 of Alien and Invasive Species Regulations (GN R 598 in GG 37885 of 01-08-2014).

²⁸⁶ S 73 of NEMBA.

²⁸⁷ S 76 of NEMBA read together with regulation 8 of Alien and Invasive Species Regulations (GN R 598 in GG 37885 of 01-08-2014).

²⁸⁸ Regulations 2(3), 3(3), 4(4) and 5(3) of Alien and Invasive Species Regulations (GN R 598 in GG 37885 of 01-08-2014).

constitutes a listed or prohibited invasive species, and comply with the relevant applicable legal obligations.

5.2. Landowner

The landowner is potentially one of the most important stakeholders in getting the FFI off the ground. One should distinguish between two possible scenarios. In the first, the mining right holder is also the landowner. In the second scenario, the mining right holder and the landowner are different.

The distinction may be less pertinent during the extraction and rehabilitation phases of the mining project. During this time, the mining right holder may implement fibre farming as part of its rehabilitation obligations.²⁸⁹ However, the situation becomes more complicated from a regulatory viewpoint when the FFI transitions from a purely rehabilitative endeavour to a commercial agricultural enterprise. At this point, the identity of the landowner may have different consequences. The two scenarios are examined below.

If the mining right holder is also the landowner, the mining right holder may wish to keep focusing on its core business – mining. Therefore, it may prefer to sell the land, post-closure, to an entity with the necessary appetite and skills to engage in agricultural activity. If the FFI was already established as part of the rehabilitation venture, as envisioned above, the purchaser of the land must be willing to buy the land and the FFI as a going concern. For the FFI to serve the purposes of building a resilient post-mine community, the purchaser would also have to commit to the idea and objects of the project for local-economic-development purposes. It would be fair to assume that potential purchasers may balk at the idea of purchasing degraded land, especially where it comes with a host of legislative provisions requiring rehabilitation. Unless the deal is sweetened, for instance, by tax incentives, it is unlikely that there will be a big take up. Another means to ensure the FFI's longevity is for the sale agreement of the land to be made subject to the condition that the purchaser also signs co-operation agreements with the project's beneficiaries, for example, the local community.

²⁸⁹ See more detailed discussion of the rehabilitation plan in Section 5.1.1.4 above.

If the mining right holder and the landowner are different entities, other challenges are present. In this case, the mining right holder's entitlements to use the land terminate when the extraction and rehabilitation activities come to an end.²⁹⁰ Upon such termination, all rights of use and enjoyment of the land are returned to the landowner, whose rights were very restricted during the life of the mine.²⁹¹ Three specific issues that are relevant in this context are the abandonment of mining rights, incentives for non-mining landowners and expropriation. These aspects are examined below.

5.2.1. Abandonment of Mining Rights²⁹²

One aspect of the Mineral and Petroleum Resources Development Act (MPRDA)²⁹³ that is still unsettled is whether the MPRDA contemplates the unilateral abandonment of the mining right by the holder thereof.²⁹⁴ The MPRDA contains a few provisions that hint at such a possibility but does not provide any determinative answers. The position that prevails in the MPRDA needs to be clarified to ensure that landowners' interests are protected against arbitrary abandonment of mining rights.

Section 11 of the MPRDA regulates the disposal of mining rights in terms of the MPRDA. It provides that a mining right may not be "alienated or otherwise disposed of without the written consent of the Minister".²⁹⁵ While abandonment is not expressly mentioned in this section, section 56(f) states that a right granted in terms of the MPRDA shall lapse if abandoned. The legislative mention of abandoning a right granted in terms of the MPRDA is strange. Such a unilateral relinquishment of

²⁹⁰ See ss 43 and 56 of the MPRDA outlining the procedure for acquiring a closure certificate in the event of the termination of a mining right. See also Van der Schyff E *Property in Minerals and Petroleum* (2016) 500ff.

²⁹¹ Van der Schyff E *Property in Minerals and Petroleum* (2016) 155.

²⁹² This section is based on the work of Richard Cramer towards his doctoral thesis entitled *The Abandonment of Landownership*, as well as an article published by him – Cramer R "The Abandonment of Mining and Prospecting Rights: A Not-So Unilateral Transaction" (30-04-2018) *Mineral Law in Africa* <[http://www.mlia.uct.ac.za/news/abandonment-mining-and-prospecting-rights-not-so-unilateral-transaction#targetText=The%20Abandonment%20of%20Mining%20and%20Prospecting,A%20Not%20Dso%20Unilateral%20Transaction&targetText=Even%20if%20abandonment%20\(subject%20to,in%20absolution%20from%20one's%20obligations](http://www.mlia.uct.ac.za/news/abandonment-mining-and-prospecting-rights-not-so-unilateral-transaction#targetText=The%20Abandonment%20of%20Mining%20and%20Prospecting,A%20Not%20Dso%20Unilateral%20Transaction&targetText=Even%20if%20abandonment%20(subject%20to,in%20absolution%20from%20one's%20obligations)> (accessed 23-10-2019). Cramer's work is supervised by the MLiA Chair and funded by the NRF.

²⁹³ Act 28 of 2002.

²⁹⁴ The issue is briefly touched on in Van der Schyff E *Property in Minerals and Petroleum* (2016) 508-510.

²⁹⁵ MPRDA, s 11(1).

a right would not appear to fit with the MPRDA's objectives.²⁹⁶ A right granted in terms of the MPRDA is accompanied by a plethora of obligations on the recipient of the right.²⁹⁷ These include environmental responsibilities as well as obligations owed to people (e.g. the landowner) and communities affected by mining operations.²⁹⁸ Against this background, it would seem that unilateral abandonment of a mining right is not, and should not be, possible.²⁹⁹ Any such abandonment procedure would have to be a "clearly circumscribed process through which a right holder could surrender his right".³⁰⁰

An evaluation of section 56(f) in isolation does not take account of section 11(1) of the MPRDA.³⁰¹ As noted, this section requires ministerial permission for the disposal of a mining right. It is contended that abandonment is capable of falling within the definition of "otherwise disposed of". To "otherwise dispose of" should be construed to include abandonment. While case law has not considered whether abandonment falls within the scope "dispose of",³⁰² the Oxford English Dictionary defines "to dispose of" as including "put or get (anything) off one's hands" and "to get rid of". The MPRDA's mention of abandonment in later sections would support such a broader interpretation supported by the dictionary definition.³⁰³

To bring abandonment under section 11(1) of the MPRDA would address the concerns raised as to the otherwise anomalous mention of abandonment later in section 56 (f) of the MPRDA, and ensure that the interests of landowners are considered. It would not be a unilateral act, completely at the whim of the holder, to bring mining operations to an end. Ministerial permission would be required. This would not be abandonment in its true sense, given that the cooperation of a third party is required, negating the unilateral nature of "true abandonment".³⁰⁴

²⁹⁶ Van der Schyff E *Property in Minerals and Petroleum* (2016) 508-509.

²⁹⁷ Van der Schyff E *Property in Minerals and Petroleum* (2016) 509.

²⁹⁸ Van der Schyff E *Property in Minerals and Petroleum* (2016) 509.

²⁹⁹ Van der Schyff E *Property in Minerals and Petroleum* (2016) *Property* 509.

³⁰⁰ Van der Schyff E *Property in Minerals and Petroleum* (2016) *Property* 509.

³⁰¹ For her discussion of section 11, see Van der Schyff E *Property in Minerals and Petroleum* (2016) 476ff.

³⁰² For cases that consider the meaning of "dispose of", see *Kinloch NO and Another V Kinloch* 1982 1 SA 679 (A) paras 697G-698G; *Standard Bank of South Africa Ltd v Hunkydory Investments 188 (Pty) Ltd and Others No 2* 2010 1 SA 634 (WCC) para 12.

³⁰³ See MPRDA, ss 43(3)(a), 43(4), 44 and 56(f).

³⁰⁴ See Peñalver E "The Illusory Right to Abandon" (2010) 109 *Michigan Law Review* 191 206.

Nevertheless, it is contended that it is the most satisfactory interpretation of the MPRDA.

Even if abandonment (subject to ministerial permission) is contemplated by section 11(1), the consequence of the abandonment of a mining right does not result in absolution from one's obligations. This perhaps, more than anything else, protects landowner interests. Such abandonment, should it be possible, triggers an obligation to apply for a closure certificate.³⁰⁵ Until the granting of such a certificate, the abandoner retains liability for any environmental or ecological damage.³⁰⁶ A closure certificate may not be granted to the would-be abandoner unless the Chief Inspector of Mines³⁰⁷ and the relevant government department have confirmed in writing that the abandoner has complied with its obligations.³⁰⁸ Ultimately the abandoner must fulfil all obligations relating to both health and safety as well as management of pollution before it can wash its hands of the mine in question. Abandonment of a mining right should, in theory, lead to the return of rehabilitated land to the landowner.

It would seem unlikely such a situation would arise in any case, despite the MPRDA envisioning abandonment of rights granted in terms of its provisions.³⁰⁹ Even assuming the Minister would be willing to grant permission to abandon, it is difficult to envisage circumstances in which a mining right holder would wish to do so. The provisions of the MPRDA clearly intend such an abandoner to retain liability for environmental and ecological damage until the stringent requirements to obtain a mine closure certificate have been met.³¹⁰ It would indeed be strange if a mining right holder would opt to forgo the benefits of the right (not transferring it to another entity for consideration) while retaining the burdens.

Abandonment, in some form, thus does appear possible in terms of the provisions of the MPRDA. However, it is not a purely unilateral act and requires the permission of the Minister.³¹¹ Furthermore, and perhaps most importantly, abandonment does

³⁰⁵ MPRDA, s 43(3).

³⁰⁶ MPRDA, s 43(1).

³⁰⁷ See ss 48 and 49 of the Mine Health and Safety Act 29 of 1996 on the appointment and functions of the Chief Inspector of Mines.

³⁰⁸ MPRDA, s 43(5). See MPRDA, s 43(13) for additional requirements for the granting of a closure certificate.

³⁰⁹ MPRDA, s 56(f).

³¹⁰ MPRDA, s 43(3).

³¹¹ MPRDA, s 11(1).

not free the abandoner from its obligations. In fact, these obligations remain firmly intact until a closure certificate is granted.³¹² This ensures that the interests of parties such as landowners remain protected, as one cannot “abandon” a mining right without complying with the procedures around mine closure and rehabilitation of land.

While mining rights may not be abandoned, there are still significant shortcomings in the legal framework which may create a situation in which a landowner is saddled with unrehabilitated mining land. A significant contributing factor to the continued failure to close mines is the practice of larger mining companies selling on mining concerns to smaller companies.³¹³ These smaller companies do not have the same resources for rehabilitation and closure of mines, and thus are more likely to fail to comply with the environmental obligations attached to the mining right.³¹⁴ The

³¹² MPRDA, s 43(3).

³¹³ Humby T “The Spectre of Perpetuity Liability for Treating Acid Water on South Africa’s Goldfields: Decision in *Harmony II*” (2013) 31 *JERL* 453 459-460 and 463; Krause R and Snyman L “Rehabilitation and Mine Closure Liability: An Assessment of the Accountability of the System to Communities” (2014) unpublished paper presented at the 9th *International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 2; McKay TJM and Milaras M “Public Lies, Private Looting and the Forced Closure of Grootvlei Gold Mine, South Africa” (2017) 13 *The Journal for Transdisciplinary Research in Southern Africa* 1 11; Humby T “Facilitating dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the 9th *International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014; Staff Reporter “Mining Companies Skirting the Law” (12-10-2015) *IOL* <<https://www.iol.co.za/capeargus/mining-companies-skirting-the-law-1928734>> (accessed 23-10-2019); Centre for Environmental Rights “Newsflash: CER Calls for Transparency in Sale of Anglo’s SA Coal and Iron Assets” (04-03-2016) *Centre for Environmental Rights* <<https://cer.org.za/news/newsflash-cer-calls-for-transparency-in-sale-of-anglos-sa-coal-and-iron-assets>> (accessed 23-10-2019); Centre for Environmental Rights “Warning Around Anglo American’s Sale of Coal Mines: Transparency Essential to Avoid Downstream Disaster” (25-04-2017) *Centre for Environmental Rights* <<https://cer.org.za/news/warning-around-anglo-americans-sale-of-coal-mines-transparency-essential-to-avoid-downstream-disaster>> (accessed 23-10-2019); Crotty A “Trying to Keep Mining Deals Clean” (05-05-2019) *BusinessLive* <<https://www.businesslive.co.za/fm/money-and-investing/2017-05-05-trying-to-keep-mining-deals-clean/>> (accessed 23-10-2019).

³¹⁴ Humby T “The Spectre of Perpetuity Liability for Treating Acid Water on South Africa’s Goldfields: Decision in *Harmony II*” (2013) 31 *JERL* 453 459-460, 463; Krause R and Snyman L “Rehabilitation and Mine Closure Liability: An Assessment of the Accountability of the System to Communities” (2014) unpublished paper presented at the 9th *International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 2; McKay TJM and Milaras M “Public Lies, Private Looting and the Forced Closure of Grootvlei Gold Mine, South Africa” (2017) 13 *The Journal for Transdisciplinary Research in Southern Africa* 1 11; Humby T “Facilitating Dereliction? How the South African legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the 9th *International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014; Staff Reporter “Mining Companies Skirting the Law” (12-10-2015) *IOL* <<https://www.iol.co.za/capeargus/mining-companies-skirting-the-law-1928734>> (accessed 23-10-2019); Centre for Environmental Rights “Newsflash: CER Calls for Transparency in Sale of Anglo’s SA Coal and Iron Assets” (04-03-2016) *Centre for Environmental Rights* <<https://cer.org.za/news/newsflash-cer-calls-for>

MPRDA does not require compliance with closure obligations where a larger company transfers a mining operation to a smaller company that has fewer resources.³¹⁵ The Minister must consent to such a transfer if the transferee is deemed “capable of carrying out and complying with the obligations and the terms and conditions of the right in question”.³¹⁶ It is difficult to overturn the exercise of such discretion on review.³¹⁷ Ultimately the environmental liabilities attached to a mining right will rest with the last right holder,³¹⁸ in all likelihood the most financially precarious of all the holders of the right in question.³¹⁹ Effectively, this undermines the goal of achieving sustainable mine closure – and the rule of law – since the last right holder is unable to comply with closure requirements.³²⁰

There are further challenges for achieving rehabilitation and mine closure in the context of the winding-up of insolvent companies.³²¹ There is a “lack of articulation between the closure requirements in the MPRDA and the process for winding up

transparency-in-sale-of-anglos-sa-coal-and-iron-assets> (accessed 23-10-2019); Centre for Environmental Rights “Warning Around Anglo American’s Sale of Coal Mines: Transparency Essential to Avoid Downstream Disaster” (25-04-2017) *Centre for Environmental Rights* <<https://cer.org.za/news/warning-around-anglo-americans-sale-of-coal-mines-transparency-essential-to-avoid-downstream-disaster>> (accessed 23-10-2019); Crotty A “Trying to Keep Mining Deals Clean” (05-05-2019) *BusinessLive* <<https://www.businesslive.co.za/fm/money-and-investing/2017-05-05-trying-to-keep-mining-deals-clean/>> (accessed 23-10-2019).

³¹⁵ MPRDA, ss 11 and 43; Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³¹⁶ Section 11(2)(a). See Humby T “Facilitating D? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³¹⁷ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³¹⁸ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³¹⁹ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³²⁰ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

³²¹ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 8-9.

companies as set out in chapter 14 of the Companies Act, 1973”.³²² Importantly, the Companies Act does not place an obligation on a court considering an application for provisional liquidation to determine whether the company has (1) applied for a mine closure certificate, (2) made provision for passing on environmental liabilities and (3) made up for any shortfall in the financial provision for rehabilitation of the land.³²³ Compounding this problem is that government departments concerned with the regulation of mineral resources and the protection of the environment are not required to be notified of the pending liquidation.³²⁴ As such, they are often only made aware of the winding-up when an order has already been granted by the court.³²⁵

As with the granting of a right in terms of the MPRDA in the first place, the landowner has no say in respect of transfers of the right in question. Companies are thus effectively able to play “pass-the-parcel” with rights,³²⁶ to the detriment of the landowner’s interests in effective rehabilitation of the land.

5.2.2. Incentives for Non-Mining Landowners

The landowner who is an entity other than the mining company would be under no obligation to continue with the FFI when the mining project terminates. The mining right holder cannot impose any conditions on the landowner when the use of the land is returned to the landowner. Therefore, the longevity of the FFI may be

³²² Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 8. Although the Companies Act 61 of 1973 was repealed by the Companies Act 71 of 2008, as of writing, the winding-up of insolvent companies remains regulated by Chapter 14 of the 1973 Act. See sch 5 item 9 of the 2008 Act.

³²³ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 8.

³²⁴ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 8.

³²⁵ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 8.

³²⁶ Humby T “Facilitating Dereliction? How the South African Legal Regulatory Framework Enables Mining Companies to Circumvent Closure Duties” (2014) unpublished paper presented at the *9th International Conference on Mine Closure* hosted by the University of the Witwatersrand at the Sandton Convention Centre, Johannesburg, 01-10-2014 - 03-10-2014 7.

severely restricted where the mining right holder and the landowner are different. In this case, the FFI may be forced to terminate when mine rehabilitation has been completed. To avoid this outcome, there should be an incentive for the landowner to continue with the FFI when the mining right holder exits. For example, these incentives can take the form of financial profits or tax rebates.

South African fiscal legislation, unlike, for example, those in the United States, does not contain provisions incentivising landowners to donate decommissioned mining land to the community for sustainability efforts.³²⁷ The previous Income Tax Act 34 of 1953 provided that expenditures incurred by persons 'undertaking pastoral, agricultural or other farming operations', can be deducted for income tax purposes.³²⁸ This provision would have been useful in the context of the FFI. However, this 1953 Act was amended by the Income Tax Act of 1962,³²⁹ which does not contain a similar provision.

There is a need for law reform to incentivise landowners to donate the land or to partner with communities to build a diversified local economy.³³⁰ A potential incentive for the landowner would be to follow the approaches in countries such as Germany and the United States where the government provides tax deductions for the sum of any donations of land for the purposes of calculating taxable income.³³¹

Currently, the Income Tax Act provides for tax deductions on income to persons who make *cash* payments to mine rehabilitation companies or trusts that have the sole objective of rehabilitating or restoring mine land to a state that conforms with the principles of sustainable development.³³² It can be argued that "sustainable development" can be interpreted to include projects such as the FFI that rehabilitate the land and repurpose it to create a sustainable and diversified local economy. Therefore, it appears that there may already be a tax incentive to donate *cash* to mine rehabilitation companies.³³³

³²⁷ McLaughlin N "Increasing the Tax Incentives for Conservation Easement Donations" (2004) 31 *Ecology Law Quarterly* 1-4 and 5.

³²⁸ Income Tax Act 34 of 1953, s 26 read with sch (1) para 12(1)(a) and (b).

³²⁹ Act 58 of 1962.

³³⁰ Paterson A "Tax Incentives – Valuable Tools for Biodiversity Conservation in South Africa" (2005) 122 *South African Law Journal* 182 191.

³³¹ Paterson A "Tax Incentives – Valuable Tools for Biodiversity Conservation in South Africa" (2005) 122 *South African Law Journal* 182 192-193.

³³² Income Tax Act 58 of 1962, s 37A(1).

³³³ Income Tax Act 58 of 1962, s 37A(1).

To further the objectives of the FFI, this provision in the Income Tax Act³³⁴ should be extended also to include donations of *land* to mine rehabilitation companies. This can provide a valuable incentive to landowners who reclaim their post-mining land from a mining right holder to commit to the long-term future of an FFI. The landowner can donate the land to a company whose sole purpose is to promote the sustainable development thereof through the vehicle of the FFI.

Another incentive would be for the government to grant tax deductions for expenditure incurred in undertaking sustainable development activities. For example, farmers could deduct the costs incurred when undertaking soil and water rehabilitation measures.³³⁵ Lastly, governments could provide exemptions or reductions for taxes associated with the transfer of property and estate duties, thus providing further incentives for landowners to donate land for purposes of an FFI.³³⁶

5.2.3. Expropriation

Until legislative interventions are in place to incentivise non-mining landowners to continue with the FFI, or where such interventions fail to motivate landowners to support the FFI, other solutions must be found. One possible solution is to expropriate the land where the FFI is conducted.

The Constitution stipulates that property may only be expropriated for a public purpose or in the public interest.³³⁷ Public interest includes cases of expropriation for purposes of land reform – where land is taken from one owner and transferred to another person or group of persons for their personal benefit.³³⁸ This definition confirms the role that expropriation plays in the South African context as “a tool of social (re)structuring and transformation”.³³⁹

³³⁴ Income Tax Act 58 of 1962, s 37A(1).

³³⁵ Paterson A “Tax Incentives – Valuable Tools for Biodiversity Conservation in South Africa” (2005) 122 *South African Law Journal* 182 193.

³³⁶ Paterson A “Tax Incentives – Valuable Tools for Biodiversity Conservation in South Africa” (2005) 122 *South African Law Journal* 182 193.

³³⁷ Constitution, s 25(2).

³³⁸ Constitution, s 25(4)(a); Mostert H “The Poverty of Precedent on Public Purpose/Interest: An Analysis of Pre-Constitutional and Post-Apartheid Jurisprudence in South Africa” in Hoops B, Marias EJ, Mostert H, Sluysmans JAMA and Verstappen LCA (eds) *Rethinking Expropriation Law I: Public Interest in Expropriation* (2015) 59 64.

³³⁹ Mostert H “The Poverty of Precedent on Public Purpose/Interest: An Analysis of Pre-Constitutional and Post-Apartheid Jurisprudence in South Africa” in Hoops B, Marias EJ, Mostert H, Sluysmans JAMA and Verstappen LCA (eds) *Rethinking Expropriation Law I: Public Interest in Expropriation* (2015) 59 60.

If the non-mining landowner cannot be motivated to pursue the FFI once the mine has closed, the state may elect to expropriate the land. The land can then be transferred to the surrounding community who must benefit from the FFI. The White Paper on South African Land Policy stipulates guidelines under which expropriation would occur.³⁴⁰ It states that expropriation would only be considered in situations where there is no reasonable alternative land available, and the landowner refuses to negotiate a fair sale price with the state.³⁴¹ These are factors that must be considered before the state may lawfully expropriate the mine land.

The amount of compensation payable to the landowner for the expropriated land will depend on the prescripts of just and equitable compensation, as required in terms of the Constitution.³⁴² To determine the compensation amount, all relevant circumstances must be taken into account.³⁴³ The Draft Expropriation Bill, 2019 also raises the possibility of nil compensation being payable under certain circumstances.³⁴⁴ However, the Bill is still in the very early drafting stages and there is currently no official policy to support zero compensation as a departure point.³⁴⁵

To avoid the invasive option of expropriation, mining right holders and landowners should be encouraged to reach a mutually acceptable agreement. Government officials can play an important role in facilitating an agreement between the mining right holder and the landowner. For example, representatives from the Departments of Mineral Resources and Energy; Trade and Industry; Agriculture, Land Reform and Rural Development; and Small Business Development may provide valuable input. Officials at municipal level can also prove invaluable in this process due to their intimate knowledge of local circumstances, challenges and opportunities. Additional interests of the municipality are discussed in the following section.

5.3. Municipality

For the purposes of this discussion, the interests of the municipality in a mine's proposed FFI are two-fold. The first relates to the land use restrictions or zoning of

³⁴⁰ Department of Land Affairs *White Paper on South African Land Policy* (1997).

³⁴¹ Department of Land Affairs *White Paper on South African Land Policy* (1997).

³⁴² Constitution, s 25(3).

³⁴³ Constitution, s 25(3).

³⁴⁴ Draft Expropriation Bill B-2019, cl 12(3). See also Presidential Advisory Panel on Land Reform and Agriculture *Final Report* (2019) 72.

³⁴⁵ Presidential Advisory Panel on Land Reform and Agriculture *Final Report* (2019) 72.

the mine site, as determined by the municipality's land use scheme.³⁴⁶ The second interest of the municipality concerns the provisions of the mining company's Social and Labour Plan and how this plan aligns with the municipality's Integrated Development Plan. These two aspects are examined in turn.

5.3.1 Land Use and Zoning³⁴⁷

A municipality regulates the use of land within its jurisdiction through its land use scheme.³⁴⁸ The use of any piece of land is restricted to the purpose provided for in a municipality's land use scheme.³⁴⁹ A scheme must include zoning categories of permitted land uses.³⁵⁰ These categories would include the purposes of mining and agriculture respectively.

Zoning refers to the public control of land use³⁵¹ by the creation of areas or zones, with each zone accommodating (or prohibiting) specific land uses.³⁵² It originated from the need to create order in the way that cities developed³⁵³ with the aim of protecting the 'health, safety, welfare and morals' of the public.³⁵⁴ Designating specific land uses to different areas promotes sustainable development.³⁵⁵ The zoning designation of a piece of land is depicted on the municipality's land use scheme and a rezoning application is required to change the said zoning. The

³⁴⁶ S 24(2)(a) of the Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA).

³⁴⁷ This section is based on excerpts from Van Schalkwyk CL *A Legal Perspective on the Role of Municipalities in Navigating the Relationship between Land Use Planning and Mining* PhD thesis University of Cape Town (2018).

³⁴⁸ Definition of "land use scheme" in s 1 of SPLUMA.

³⁴⁹ SPLUMA, s 26(2)(a). Pending the adoption of a land use scheme in a specific municipality jurisdiction, the land can be used for the purpose set out in the town planning scheme or for the same lawful purpose immediately before the enactment of SPLUMA. See s 26(2)(b)-(c) and (3) of SPLUMA.

³⁵⁰ SPLUMA, s 24(2)(a).

³⁵¹ Whitnall G "History of Zoning" (1931) 155 *The Annals of the American Academy of Political and Social Science* 1 1.

³⁵² These uses include residential, commercial, industrial, agricultural activities, etc. *Cape Town Municipality v Clarensville (Pty) Ltd* 1974 2 SA 138 (C) 139F-G; Van Wyk J *Planning Law* 2 ed (2012) 248; Nel V "A Better Zoning System for South Africa?" (2016) 55 *Land Use Policy* 257 259; Nel V "Spluma, Zoning and Effective Land Use Management in South Africa" (2016) 27 *Urban Forum* 79 82.

³⁵³ Whitnall G "History of Zoning" (1931) 155 *The Annals of the American Academy of Political and Social Science* 1 3.

³⁵⁴ Dukeminier J, Krier JE, Alexander GS, Schill MS & Strahilevitz LJ *Property* 9 ed (2017) 897; Van Wyk J *Planning Law* 2 ed (2012) 246, 249; Nel V "A Better Zoning System for South Africa?" (2016) 55 *Land Use Policy* 257 259; Nel V "Spluma, Zoning and Effective Land Use Management in South Africa" (2016) 27 *Urban Forum* 79 83.

³⁵⁵ Van Wyk J *Planning Law* 2 ed (2012) 246. However, zoning as a land use planning tool has also been criticised for perpetuating Apartheid land use patterns. See, for example, Nel V "A Better Zoning System for South Africa?" (2016) 55 *Land Use Policy* 257; Nel V "Spluma, Zoning and Effective Land Use Management in South Africa" (2016) 27 *Urban Forum* 79.

Constitutional Court emphatically stated that all zoning decisions, regardless of the size of the area involved, are part of municipal planning.³⁵⁶

Every municipality must adopt a single land use scheme for all the land situated in its jurisdiction.³⁵⁷ The land use scheme consists of a zoning map reflecting the permitted land use in each zone.³⁵⁸ It also includes regulations on the development of land and a register of amendments to the land use scheme.³⁵⁹ Therefore, whenever a municipality approves a rezoning application, the register must be updated to record the amendment to the land use scheme and depict all the conditions that may be applicable to the rezoning.³⁶⁰

Before commencing mining activities, the mining company must ensure that the zoning of the land allows for mining.³⁶¹ The zoning for mining includes related activities such as processing of the mined minerals and any rehabilitation activities to restore the land.³⁶² Therefore, while the FFI activities are still aimed at rehabilitation of mine land, the site can retain its zoning for mining purposes.

However, once the FFI proceeds to agriculture as its main purpose, it will be necessary to change the zoning of the land from mining to agriculture. Furthermore, agriculture as a zoning category is typically limited to the actual production of the agricultural products – it does not allow the processing thereof.³⁶³ If the intention of the FFI is to process the plants on site, further land use authorisations from the municipality will be needed. For example, it may be needed to obtain the municipality's consent for the site to be used for industrial purposes or noxious industry, depending on the nature of the processing of the harvested crops.

³⁵⁶ *Minister of Local Government, Environmental Affairs and Development Planning, Western Cape v The Habitat Council* 2014 4 SA 437 (CC) paras 18-19. For a critical view of this judgment, see Humby T "Hands on or Hands Off? The Constitutional Court's Denial of a Provincial Municipal Planning Role - *Habitat Council v Provincial Minister of Local Government, Western Cape* 2013 6 SA 113 (WCC); *Minister of Local Government, Western Cape v The Habitat Council (City of Johannesburg Metropolitan Municipality Amicus Curiae)* 2014 5 BCLR 591 (CC)" (2015) 1 *Journal of South African Law* 178.

³⁵⁷ SPLUMA, s 24(1) provides that the scheme must be implemented within five years of SPLUMA's commencement. SPLUMA commenced on 1 July 2015. (Proclaimed by GN 26 in GG 38828 dated 27-05-2015).

³⁵⁸ SPLUMA, s 25(2)(b).

³⁵⁹ SPLUMA, s 25(2)(a) and (c).

³⁶⁰ Laubscher N, Hoffman L, Drewes E and Nysschen J *SPLUMA: A Practical Guide* (2016) 150.

³⁶¹ *Maccsand (Pty) Ltd v City of Cape Town* 2012 4 SA 181 (CC) paras 48 and 51. See also *Minister for Mineral Resources v Swartland Municipality* 2012 7 BCLR 712 (CC) para 12.

³⁶² See, for example, the definition of "mining purposes" in the City of Johannesburg Land Use Scheme (2018) in Part II of s 1.

³⁶³ See definition of "agricultural purposes" in s 2 of sch 2 of SPLUMA.

Furthermore, if a new building is to be erected where the processing will take place, building plan approval will be required.

5.3.2 Aligning Social and Labour Plans with Integrated Development Plans

A mining company's business is mining, not agriculture. The extent to which an FFI would be implementable depends, in the first instance, on the mining company's appetite to branch into a new industry altogether. One of the major motivators for a mining company to pursue an FFI would be the company's corporate social responsibility imperatives, whether regulated or voluntary.³⁶⁴

In South Africa, the legal framework obliges certain Corporate Social Responsibility interventions.³⁶⁵ The Mining Charter³⁶⁶ consistently emphasises community development and requires mining companies to make a meaningful contribution to developing the community surrounding the mine. An accompanying Code of Good Practice aims to facilitate the successful implementation of the Mining Charter and measures compliance through the use of a scorecard system.³⁶⁷

Social obligations are imposed on mining companies upon the granting of³⁶⁸ – and persist throughout the duration of – a mining right.³⁶⁹ Mining companies must be cognisant of the economic and social background and trends of the community in which they operate. The Social and Labour Plan, required as part of the application for the mining right,³⁷⁰ is the main mechanism for giving effect to social considerations in South Africa.

³⁶⁴ Enlightened self-interest and community pressure may be some of the drivers motivating a company to engage in activities that might fall outside their core business. These give rise to voluntary corporate social responsibility interventions where corporations' own initiatives and self-regulatory practices attempt to limit their impacts on society and the environment. Kerr M, Janda R and Pitts C *Corporate Social Responsibility - A Legal Analysis* (2009) 99.

³⁶⁵ This is referred to as 'regulated CSR', involving command-and-control provisions sanctioning breach, and/or requirements for disclosure of information aimed at correcting market failures; Kerr M, Janda R and Pitts C *Corporate Social Responsibility - A Legal Analysis* (2009) 99.

³⁶⁶ Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry of 2018 (GN 1002 in GG 41934 of 27-09-2018) para 2.6.

³⁶⁷ See especially paragraph 2.6 of the Codes of Good Practice for the Minerals Industry to which the rest of this paragraph refers.

³⁶⁸ MPRDA, s 10 read with ss 16, 22, 23, 27 and 84; Regulation 42 of Mineral and Petroleum Resources Development Regulations, 2004 (GN R 527 in GG 26275 of 23-04-2004), as amended by Amendment of the Regulations, 2011 (GN R 349 in GG 34225 of 18-04-2011).

³⁶⁹ Section 22(1) read with reg 46 of Mineral and Petroleum Resources Development Regulations, 2004 (GN R 527 in GG 26275 of 23-04-2004), as amended by Amendment of the Regulations, 2011 (GN R 349 in GG 34225 of 18-04-2011).

³⁷⁰ MPRDA, regs 10(1)(g) and 42(1) and prescribed Form D of Annexure I of Mineral and Petroleum

As indicated in Annexure B, when submitting an application for a mining right, the applicant must include a social and labour plan (SLP).³⁷¹ MPRDA sets out the SLP's three-fold purpose.³⁷² The first objective is to stimulate job creation and advance social and economic wellbeing for all citizens.³⁷³ Second, the SLP aims to transform the mining industry by improving social and economic inclusivity and equality in the industry.³⁷⁴ Third, the SLP is used as an instrument to compel mining right holders to contribute to the socio-economic development of mining areas.³⁷⁵

To achieve the abovementioned objectives, the MPRDA lists six aspects that must be addressed in the SLP. It must contain information on the specific mine³⁷⁶ and an undertaking by the mining right holder to implement the plan and inform mine employees of the content thereof.³⁷⁷ The other four prescribed aspects relate to more substantive issues: the SLP must include a human resources development plan,³⁷⁸ a local economic development programme,³⁷⁹ procedures relating to downscaling and retrenchment³⁸⁰ and finally, financial provision for the implementation of the plan.³⁸¹

A detailed discussion of all requirements of the SLP falls outside the scope of this discussion.³⁸² This section is specifically interested in one aspect of the SLP,

Resources Development Regulations, 2004 (GN R 527 in GG 26275 of 23-04-2004), as amended by Amendment of the Regulations, 2011 (GN R 349 in GG 34225 of 18-04-2011); Section 1.4(a) of the Department of Mineral Resources Revised Social and Labour Plan Guideline (2010) 6.

³⁷¹ MPRDA, regs 10(1)(g) and 42(1) and prescribed Form D of Annexure I of the Mineral and Petroleum Resources Development Regulations, 2004 (GN R 527 in GG 26275 of 23-04-2004), as amended by Amendment of the Regulations (GN R 349 in GG 34225 of 18-04-2011); Section 1.4(a) of the Department of Mineral Resources Revised Social and Labour Plan Guideline (2010) 6.

³⁷² MPRDA, reg 41. The SLP Guidelines issued by the DMR set out four objectives of the SLP (as opposed to the three set out in the regulations to the MPRDA). The first is based on s 2(e) of the MPRDA, setting out the objectives of the MPRDA in general, not the SLP specifically. The second and third SLP objectives in the guidelines accord with the objectives set out in the regulations to the MPRDA. The fourth objective in the guidelines relates to skills development of historically disadvantaged South Africans. See Department of Mineral Resources *Revised Social and Labour Plan Guideline* (2010) 5.

³⁷³ MPRDA, reg 41(a). This is a repetition of s 2(f) of the Act, dealing with the objectives of the MPRDA.

³⁷⁴ MPRDA, reg 41(b). This objective can be compared to the Preamble and s 100 of the MPRDA.

³⁷⁵ MPRDA, reg 41(c). This accords with s 2(i) of the MPRDA.

³⁷⁶ MPRDA, reg 46(a).

³⁷⁷ MPRDA, reg 46(f).

³⁷⁸ MPRDA, reg 46(b).

³⁷⁹ MPRDA, reg 46(c).

³⁸⁰ MPRDA, reg 46(d).

³⁸¹ MPRDA, reg 46(e).

³⁸² Further details of other aspects of the mine's SLP are discussed in section 5.4.2 below. For a full analysis of the Social and Labour Plan system, see Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 1: System Design Trends Analysis Report* (2016); Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 2: Implementation Operation Analysis Report* (2017); Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 3: Alternative Models for Mineral-Based Social Benefit*

namely, the local economic development programme. The local economic development programme of the SLP must include details of projects supported by the mine that deal with infrastructure and poverty alleviation.³⁸³ These projects must align with the integrated development plan (IDP) of the municipality.³⁸⁴

A municipality's IDP, in turn, is an important instrument for municipal planning, alongside the municipal land use scheme referred to earlier.³⁸⁵ The IDP is a "single, inclusive and strategic plan for the development of the municipality".³⁸⁶ It forms the basis of all the municipality's development policies and guides all municipal decisions.³⁸⁷ It also forms the framework and basis for the municipality's budget and identifies priority areas for municipal spending.³⁸⁸

In addition to aligning with the municipality's IDP, the SLP should also consider the content of various other plans of the mining right holder, as the issues addressed in all of these plans overlap.³⁸⁹ The figure below illustrates the various other documents of the mining right holder that should inform the content of the SLP.³⁹⁰

(2018); Managing Transformation Solutions *The Marikana Commission of Inquiry: The Problems of the Social and Labour Plan (SLP) 'System' within the Mining Sector in South Africa* (2014).

³⁸³ MPRDA, reg 46(c)(iii).

³⁸⁴ MPRDA, reg 46(c)(iii); Department of Mineral Resources *Revised Social and Labour Plan Guideline* (2010) 18; Marais L "Resources Policy and Mine Closure in South Africa: The Case of the Free State Goldfields" (2013) 38 *Resources Policy* 363 366; Rogerson CM "Mining-Dependent Localities in South Africa: The State of Partnerships for Small Town Local Development" (2012) 23 *Urban Forum* 107 108-109 and 121-129; Louw H and Marais L "Mining and Municipal Finance in Kathu, An Open Mining Town in South Africa" (2018) 5 *The Extractive Industries and Society* 278 279-280.

³⁸⁵ Spatial Planning and Land Use Management Act (SPLUMA), s 5(1)(a).

³⁸⁶ Local Government: Municipal Systems Act 32 of 2000, s 25(1); *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* 2008 4 SA 572 (W) para 33; Van Wyk J *Planning Law* 2 ed (2012) 271; De Visser J *Developmental Local Government: A Case Study of South Africa* (2005) 219-220.

³⁸⁷ Local Government: Municipal Systems Act 32 of 2000, s 36. See also Department of Provincial and Local Government *Integrated Development Planning Guide Pack* (2001) 4.

³⁸⁸ Local Government: Municipal Systems Act 32 of 2000, s 25(1)(c); Harrison P "The Origins and Outcomes of South Africa's Integrated Development Plans" in Van Donk M, Swilling M, Pieterse E and Parnell S (eds) *Consolidating Developmental Local Government: Lessons from the South African Experience* (2008) 321; De Visser *Developmental Local Government* 219.

³⁸⁹ Ncube VH *Rethinking Enclave Development in View of the African Mining Vision (AMV): Are There Any Lessons for the Social and Labour Plan System in the AMV?* Master of Laws dissertation University of Cape Town (2019) 70.

³⁹⁰ Managing Transformation Solution (Pty) Ltd: Affidavit to the Marikana Commission of Inquiry "The Problems of the Social and Labour Plan (SLP) 'System' within the Mining sector in South Africa" (2014) 54.



Figure 3: Mining Plans informing the Social and Labour Plan³⁹¹

A mining right holder's SLP typically targets the specific areas surrounding the mining operations to contribute to those areas' socio-economic development.³⁹² A municipality's IDP can be used to guide the content of a mining company's SLP.³⁹³ The Department of Mineral Resources (as it then was) issued guidelines relating to the SLP.³⁹⁴ The guidelines envisage a five-year cycle for SLPs.³⁹⁵ An SLP's five-year cycle is significant for purposes of the FFI. As a new SLP must be adopted

³⁹¹ Managing Transformation Solution (Pty) Ltd: Affidavit to the Marikana Commission of Inquiry "The problems of the Social and Labour Plan (SLP) 'System' within the Mining sector in South Africa" (2014) 54.

³⁹² Regulation 41(c) of the MPRDA.

³⁹³ Van Schalkwyk CL *A Legal Perspective on the Role of Municipalities in Navigating the Relationship between Land Use Planning and Mining* PhD thesis University of Cape Town (2018) 69-72.

³⁹⁴ Department of Mineral Resources *Revised Social and Labour Plan Guideline* (2010). As the content of the guidelines is not contained in legislation, it is non-binding. See Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 1: System Design Trends Analysis Report* (2016) 98.

³⁹⁵ Department of Mineral Resources *Revised Social and Labour Plan Guideline* (2010) para 4.7.5, read with the templates for reporting on skills development. There is no reference in the MPRDA or Regulations that SLPs must be reviewed every five years.

every five years, it provides ample opportunity for a mining right holder to realign its SLP to provide for the FFI, if such a project was not previously envisaged.

However, mining companies are typically not structured to plan and implement local economic development projects – their focus and expertise are limited to mining.³⁹⁶ Therefore, there is a need for systemic change to enable sustainable future projects – a goal that can only be achieved when mining companies partner effectively with the relevant government departments to meet community needs.³⁹⁷

The municipality and the Department of Mineral Resources and Energy, for example, are indispensable to facilitate this process. Unfortunately, there are no provisions in the MPRDA, regulations or SLP guidelines to specify the Department's role in reviewing SLPs. This oversight points to a failure of intergovernmental relations and co-operation.³⁹⁸

5.4. Community

This section considers the legal interests of communities affected by mining. It focuses on two specific aspects, namely community consultation and human resource development.

Before discussing how the community can benefit from an FFI, it should be acknowledged that there is uncertainty about the definition of community in the mining context.³⁹⁹ It is unclear who qualifies as members of the community⁴⁰⁰ The MPRDA defines community as

³⁹⁶ Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 2: Implementation Operation Analysis Report* (03-2017) 47.

³⁹⁷ Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 2: Implementation Operation Analysis Report* (03-2017) 47.

³⁹⁸ Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 1: System Design Trends Analysis Report* (03-2016) 86 and 100-102; Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 2: Implementation Operation Analysis Report* (03-2017) 48-51; Centre for Applied Legal Studies *The Social and Labour Plan Series - Phase 3: Alternative Models for Mineral-Based Social Benefit* (03-2018) 14; South African Local Government Association *Guidelines on Local Government and Mining Company Engagement on Housing Delivery* (2015) 3.

³⁹⁹ See, in general, Heyns A "Mining Community Development in South Africa: A Critical Consideration of How the Law and Development Approach the Concept of Community" 2019 12 *Law and Development Review* 561; Heyns A and Mostert H "Three Mining Charters and a Draft: How the Politics and Rhetoric of Development in the South African Mining Sector are Keeping Communities in Poverty" (2018) 11 *Law and Development Review* 801 826-831.

⁴⁰⁰ For example, is "community" in the mining context restricted to mine workers and their families; does it refer to people living in the immediate vicinity of the mine or does it extend to the larger mine area? Also,

a group of historically disadvantaged persons with interest or rights in a particular area of land on which the members have or exercise communal rights in terms of an agreement, custom or law: Provided that, where as a consequence of the provisions of this act, negotiations or consultations with the community is required, the community shall include the members or part of the community directly affected by mining on land occupied by such members or part of the community.⁴⁰¹

It is also unclear who has the authority to represent the community in negotiations.⁴⁰² Furthermore, when negotiating with mining companies or government officials, communities are at a disadvantage due to the knowledge imbalance that favours their counterparts. Communities should be empowered with the necessary knowledge and expertise to combat the information deficit. They must be provided with the required information during the mandated consultation processes to enable them to make informed decisions.⁴⁰³

Recently, the Constitutional Court ruled that before mining can commence, a mining company requires the *consent* of (not merely consultation with) community members who hold informal rights in respect of the land where mining is proposed.⁴⁰⁴ The same principles will apply before the community land can be used for the proposed FFI project. The traditional community's consent must be obtained before the agricultural and related processing activities commence on the land.⁴⁰⁵

are people in the labour-sending areas included in the definition of community?

⁴⁰¹ MPRDA, s 1.

⁴⁰² Heyns A "Mining Community Development in South Africa: A Critical Consideration of How the Law and Development Approach the Concept of Community" 2019 12 *Law and Development Review* 561; Heyns A and Mostert H "Three Mining Charters and a Draft: How the Politics and Rhetoric of Development in the South African Mining Sector are Keeping Communities in Poverty" (2018) 11 *Law and Development Review* 801 826-831; Claassens A "Mining Magnates and Traditional Leaders" in A Buthelezi A, Skosana D and Vale B (eds) *Traditional Leaders in a Democracy: Resources, Respect and Resistance* (2019 77 and 90.

⁴⁰³ MPRDA, s 22(4)(b); Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 7.

⁴⁰⁴ *Maledu and Others v Itereleng Bakgatla Mineral Resources (Pty) Limited and Another* 2019 2 SA 1 (CC); Interim Protection of Informal Land Act 31 of 1996, s 2(1). See also *Baleni and Others v Minister of Mineral Resources and Others* 2019 1 All SA 358 (GP) para 83, where the court declared that customary communities who hold rights over land in terms of the Interim Protection of Informal Land Act 31 of 1996 may not be deprived of their land (even for the purposes of mining in terms of the MPRDA) without their consent.

⁴⁰⁵ Interim Protection of Informal Land Rights Act 31 of 1996, s 2(1).

The MPRDA recognises the need to promote local and rural development in communities impacted by mining activities.⁴⁰⁶ The Act aims to encourage the opportunities available to historically disadvantaged persons, women, and communities to engage in the mining industry and benefit from the nation's natural resources.⁴⁰⁷ To ensure adequate development of a community, community members must be consulted and informed of their rights regarding the mining activities affecting them. Communities must be active participants in their own social upliftment.

Consultation is a crucial tool aimed at involving interested and affected parties in the mining and rehabilitation endeavour. The following section discusses the consultation requirements relevant in the mining context. It examines who qualifies as interested and affected parties and investigates the nature of consultation when a mining right holder's SLP is amended.

5.4.1. Consultation⁴⁰⁸

The MPRDA requires consultation with interested and affected parties (including the community) during the application process for a mining right.⁴⁰⁹ The MPRDA is silent regarding the meaning of "consultation". The regulations do not give any further indication of what the consultation requirement entails. According to the guidelines of the DMR, consultation is a two-way communication process between the applicant and the relevant interested or affected party.⁴¹⁰ The mining right applicant is required to seek, listen to and consider the response of all parties involved to allow for openness in the decision-making process.⁴¹¹

⁴⁰⁶ MPRDA, Preamble.

⁴⁰⁷ MPRDA, s 2(d).

⁴⁰⁸ This section is based on excerpts from Van Schalkwyk CL *A Legal Perspective on the Role of Municipalities in Navigating the Relationship between Land Use Planning and Mining* PhD thesis University of Cape Town (2018).

⁴⁰⁹ MPRDA, ss 10(1) and 22(4)(b).

⁴¹⁰ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 3-4.

⁴¹¹ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 3-4.

While the MPRDA provides for input by parties who are interested in or affected by the mining right application,⁴¹² it does not elaborate on the purpose of the consultation process. However, the aim has been alluded to in various other forums.

In *SA Soutwerke v Saamwerk Soutwerke*⁴¹³ the court stated that the consultation process enables the mining right applicant to address the concerns of affected parties when preparing the required environmental management programme.⁴¹⁴ In *Bengwenyama Minerals v Genorah Resources*⁴¹⁵ the Constitutional Court also confirmed the purpose of consultation with the landowner to be an attempt to accommodate the landowner insofar as there will be interference with the landowner's activities when mining commences on the land.⁴¹⁶ The Constitutional Court further stated that engagement must take place in good faith.⁴¹⁷

In response to the Constitutional Court judgment and the general lack of clarity in the MPRDA regarding the consultation requirements, the DMR issued guidelines for

⁴¹² MPRDA, s 10, read with reg 3. Clause 6 of the Mineral and Petroleum Resources Development Amendment Bill 15D—2013 proposes to amend section 10 of the MPRDA by specifically referring to consultation with communities. The National Assembly passed the Amendment Bill in May 2014. However, the President referred the Bill back to the National Assembly on 16 January 2015. Four reasons were advanced for the President's reservations in signing the Bill. First, there were constitutional concerns about the powers awarded to the Minister to amend legislation without due procedure. Second, the Bill could be challenged for contravening the Trade Development Cooperation Agreement. Third, there were concerns about the shortened period for public participation during the drafting process of the Bill. Fourth, there was a lack of consultation with traditional leaders. See Mineral Resources Committee "Mineral and Petroleum Resources Development Amendment Bill [B15B-2013]: Legal Opinion on President's Reservation About Its Constitutionality" (18-02-2015) *Parliamentary Monitoring Group* <<https://pmg.org.za/committee-meeting/20003/>> (accessed 14-02-2018). On 22 August 2018, during a meeting of Parliament's Mineral Resources Portfolio Committee Meeting, the Minister of Mineral Resources expressed the view that the 2013 Amendment Bill should be withdrawn. To date, it has not been officially withdrawn in Parliament. For an overview of the Bill's progress through Parliament, see Parliamentary Monitoring Group "Mineral and Petroleum Resources Development Amendment Bill (B15-2013)" (19-06-2018) *Parliamentary Monitoring Group* <<https://pmg.org.za/bill/551/>> (accessed 04-10-2018).

⁴¹³ *SA Soutwerke (Pty) Ltd v Saamwerk Soutwerke (Pty) Ltd* 2011 4 All SA 168 (SCA) para 29.

⁴¹⁴ This decision was handed down on 1 June 2011, prior to the commencement of the Mineral and Petroleum Resources Development Amendment Act 49 of 2008 on 7 June 2013. This Amendment Act deleted section 39 of the MPRDA 28 of 2002 dealing with the requirements of and distinction between environmental management plans and environmental management programmes. However, in terms of s 24 of NEMA, an environmental management programme remains a requirement of the application process for an environmental authorisation.

⁴¹⁵ *Bengwenyama Minerals (Pty) Ltd v Genorah Resources (Pty) Ltd* 2011 4 SA 113 (CC) para 65.

⁴¹⁶ For a full discussion of the Constitutional Court case and the preceding cases in the Transvaal Provincial Division (*Bengwenyama Minerals (Pty) Ltd v Genorah Resources (Pty) Ltd* TPD 18-11-2008 case no 39808/2007) and the Supreme Court of Appeal (*Bengwenyama Minerals (Pty) Ltd v Genorah Resources (Pty) Ltd* (Formerly *Tropical Paradise 427 (Pty) Ltd and Others* 2010 3 All SA 577 (SCA)), see Humby T "The *Bengwenyama* Trilogy: Constitutional Rights and the Fight for Prospecting on Community Land" (2012) 15 *PELJ* 166; Humby T "The Community-Preferent Right to Prospect or Mine: Navigating the Fault-Lines of Community, Land, Benefit and Development in *Bengwenyama II*" (2016) 133 *SALJ* 316.

⁴¹⁷ *Bengwenyama Minerals (Pty) Ltd v Genorah Resources (Pty) Ltd* 2011 4 SA 113 (CC) para 65.

the consultation process.⁴¹⁸ According to the guidelines, the purpose of consultation is to provide interested and affected parties with the relevant information about the proposed mining activities to enable them to make informed decisions.⁴¹⁹ The consultation process also enables the mining right applicant and the consulted parties to identify possible ways of accommodating the consulted parties insofar as their rights are affected.⁴²⁰

In *Meepo v Kotze*⁴²¹ the Court established that the consultation provisions in the MPRDA should be widely construed, as it is the only prescribed means whereby interested and affected parties will be appraised of the impact of the proposed prospecting activities.⁴²² The question arises as to who qualifies as an interested or affected party for purposes of the MPRDA.

5.4.1.1. *Who are Interested and Affected Parties?*

A crucial element of the consultation process is affected by vagueness in the MPRDA itself.⁴²³ The meaning of the term “interested and affected party” (or person) is unclear. The text of the MPRDA does not contain any explanation of who an interested and affected party may be. According to the regulations, an “interested and affected person” is “a natural or juristic person or an association of persons with a direct interest in the proposed or existing operation or who may be affected by the proposed operation”.⁴²⁴

⁴¹⁸ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown). See also in general Badenhorst PJ, Olivier NJJ and Williams C "The Final Judgment" (2012) 1 *Journal of South African Law* 106.

⁴¹⁹ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 5.

⁴²⁰ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 5.

⁴²¹ *Meepo v Kotze* 2008 1 SA 104 (NC).

⁴²² *Meepo v Kotze* 2008 1 SA 104 (NC) paras 13.1-13.2.

⁴²³ Vague legislation violates the constitutional principle of the rule of law. *Affordable Medicines Trust v Minister of Health* 2006 3 SA 247 (CC) para 108; *Bertie Van Zyl (Pty) Ltd v Minister for Safety and Security* 2010 2 SA 181 (CC) paras 47 and 100; *Kruger v President of Republic of South Africa* 2009 1 SA 417 (CC) para 67; *South African Liquor Traders' Association v Chairperson, Gauteng Liquor Board* 2009 1 SA 565 (CC) para 27; *National Credit Regulator v Opperman* 2013 2 SA 1 (CC) para 46; *City Capital SA Property Holdings Ltd v Chavonnes Badenhorst St Clair Cooper* 2018 4 SA 71 (SCA) para 35; Currie I and De Waal J *The New Constitutional & Administrative Law I* (2002) 80.

⁴²⁴ MPRDA, reg 1. According to Dale MO, Bekker L, Bashall FJ, Chaskalson M, Dixon C, Grobler GL, Loxton CDA and Gildenhuys J *South African Mineral and Petroleum Law* (2019) para 115.3, the definition in the

Due to the uncertainty in the MPRDA, it is necessary to rely on external sources to determine who qualifies as an interested and affected party. In 2011, the Supreme Court of Appeal⁴²⁵ confirmed that any person whose socio-economic conditions may be directly affected by mining operations qualifies as an affected person. This will include persons living and working in the immediate vicinity of mining activities. The court noted that the interpretation of “interested party” should be limited to those who have a lawful interest in the land in question.⁴²⁶

The Consultation Guidelines of the DMR give an indication of who will be considered an interested or affected party by providing a non-exhaustive list.⁴²⁷ These include landowners, lawful occupiers, host communities, municipalities and other relevant government departments responsible for the environment and infrastructure, and any other person whose socio-economic circumstances may be directly affected by the proposed mining activities.⁴²⁸

5.4.1.2. Consultation when Amending a Social and Labour Plan

The above discussion focused on consultation during the mining right application phase. This following discussion examines the consultation requirements when a mining right holder’s SLP is amended, for example, to incorporate an FFI.

A mining right holder’s Social and Labour Plan (SLP) can be amended, subject to certain conditions specified in the MPRDA.⁴²⁹ Once the mining right is granted, the SLP may only be amended with the consent of the Minister of Mineral Resources and Energy.⁴³⁰

To facilitate the transition from mining activities to an FFI, amendments to the SLP may be required, specifically relating to the Local Economic Development Plan and the Human Resource Development Plan sections of the SLP. The mining right

regulations cannot be used to interpret this phrase in the Act itself. The regulations can indicate the legislator’s intention regarding the meaning of this phrase.

⁴²⁵ *SA Soutwerke (Pty) Ltd v Saamwerk Soutwerke (Pty) Ltd* 2011 4 All SA 168 (SCA) para 31.

⁴²⁶ *SA Soutwerke (Pty) Ltd v Saamwerk Soutwerke (Pty) Ltd* 2011 4 All SA 168 (SCA) para 30.

⁴²⁷ Department of Mineral Resources *Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA* (date unknown) 4.

⁴²⁸ Other parties listed in the guidelines are traditional authorities, land claimants, and the Department of Land Affairs.

⁴²⁹ MPRDA, reg 44.

⁴³⁰ MPRDA, reg 44.

application process caters for consultation regarding the content of the SLP when it is first drafted. However, there are no express consultation requirements when the SLP is subsequently amended. Therefore, mining right holders who propose to establish an FFI as part of their corporate social responsibility would not necessarily be required to consult with communities before amending the SLP. This legal oversight needs urgent revision. The law should provide for consultation with affected parties (for example, host communities and those from labour-sending areas) when an SLP is amended to incorporate an FFI.

Mine communities can engage in the amendment process of the SLP as well, ensuring compliance and monitoring the process.⁴³¹

5.4.2. Human Resource Development and Skills Transfer

This section examines the support required to develop a community in line with an FFI and how this support can be established through the law. The implementation of an FFI would depend on how the law guides companies to initiate this project. The SLP and its Human Resources Development Plan would play a central role in human resource development and skills transfer to transition from mining to agriculture and agro-processing. Furthermore, the MPRDA and Mining Charter support these types of initiatives by encouraging community development through various objectives and provisions.

5.4.2.1. Human Resources Development Plan

SLPs must contain development programs that address human resources and local economic development.⁴³² The Human Resources Development Plan establishes mechanisms for advancing individuals already employed by the mine through mentorship programmes, career progression plans and bursaries.⁴³³ The Human Resources Development Plan can, therefore, prepare mine workers for an FFI by providing skills which could be transferred into the various stages of an FFI. Skills

⁴³¹ Centre for Applied Legal Studies *Social and Labour Plan Mining Community Toolkit* (2017) 7.

⁴³² MPRDA, reg 46(b) and (c) Mineral and Petroleum Resources Development Regulations, 2004 (GN R 527 in GG 26275 of 23-04-2004), as amended by Amendment of the Regulations, 2011 (GN R 349 in GG 34225 of 18-04-2011). Also see discussion in Section 5.3.2 above.

⁴³³ MPRDA, reg 46(b). Prior to the closure of a mine, the mining company must give effect to the educational programmes as stipulated in the SLP. The envisaged effect of these programmes is a lowering of unemployment rates in the surrounding community by equipping its members with skills that may be used elsewhere once the mine closes.

such as entrepreneurship, manufacturing, project management and farming would assist in transforming the skills in the labour force from mining and to an FFI.⁴³⁴

Some amendments need to be made within the culture of mining, of which the Human Resources Development Plan can play an important role to implement the cultural changes required in the mining industry to pursue FFI projects.⁴³⁵ For example, when downsizing or reducing the labour force, human resource development targets (such as bursaries and portable skills development) are also reduced. Instead, a plan of action could be developed that absorb these miners into a skills development platform aimed at post-mine rehabilitation and FFIs. In this way, the FFI will be integrated into the present workplan of the mine. The human resources development targets would thereby increase, or at least remain the same, rather than be reduced.

The objectives of human resource development can be designed in such a way to facilitate a fibrous future after mine closure. Skilling the mine workers in portable competencies external to that of mine activities, is an active objective of a social labour plan.⁴³⁶ However, there are opportunities to be more specific regarding these portable skills. These skills could be designed specifically to facilitate rehabilitation and downstream processing of fibrous plants.⁴³⁷ The labour force required for a successful FFI would be trained and living in and around the mine. This, however,

⁴³⁴ Harrison STL, Rumjeet S, Mabasa X and Verster B *Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?* (2019) unpublished University of Cape Town; Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F *Building Economic Complexity in the South African Fibrous Plant Economy* (2019) unpublished University of Cape Town; Broadhurst J, Chimbganda T and Hangone G *Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo* (2019) unpublished University of Cape Town; Mostert H, Paterson A, Young CL, Van Schalkwyk L *Innovations in Mine Rehabilitation - The Two Sides of the Law: An Exploratory Study of Enabling Mechanisms in the Law for Using Fibrous Plants in Mine Land Rehabilitation* (2019) unpublished University of Cape Town.

⁴³⁵ Mostert H, Paterson A, Young CL, Van Schalkwyk L "Innovations in Mine Rehabilitation - The Two Sides of the Law: An Exploratory Study of Enabling Mechanisms in the Law for Using Fibrous Plants in Mine Land Rehabilitation" (2019) unpublished University of Cape Town.

⁴³⁶ Department of Mineral Resources *Guideline for the Submission of a Social and Labour Plan As Required in Terms of Regulation 46 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002)* 8.

⁴³⁷ Harrison STL, Rumjeet S, Mabasa X and Verster B "Towards Resilient Futures: Can Fibre-Rich Plants Serve the Joint Role of Remediation of Degraded Mine and Fuelling of a Multi-Product Value Chain?" (2019) unpublished University of Cape Town; Allen C, Bhorat H, Hill R, Rooney R and Steenkamp F "Building Economic Complexity in the South African Fibrous Plant Economy" (2019) unpublished University of Cape Town; Broadhurst J, Chimbganda T and Hangone G "Identification and Review of Downstream Options for the Recovery of Value from Fibre Producing Plants: Hemp, Kenaf and Bamboo." (2019) unpublished University of Cape Town.

would require foresight from the beginning of mining activities, or at least before retrenchments occur as the mine starts to wind down.

5.4.2.2. The MPRDA and The Mining Charter

The MPRDA and the Mining Charter provide for various imperatives which could bolster the establishment of an FFI. This discussion highlights certain key provisions of the MPRDA and the Mining Charter relevant to the implementation of an FFI.

The MPRDA gives a discretionary power⁴³⁸ to the Minister of Mineral Resources and Energy to impose conditions when granting a mining right to promote the rights and interests of a community that occupies the land.⁴³⁹ These conditions can include requirements relating to the participation of the community.⁴⁴⁰ This power of the Minister could be used to ameliorate issues around consultation and consent raised above when considering amendments to the SLP. If the amendment pertains to the Human Resources Development Plan, combined consultation with the community and mine workers could serve to establish a skills analysis of the area and seek buy-in from the community to establish the FFI.

The MPRDA requires the mining right holder to issue a notice of profitability and curtailment of mining operations affecting employment.⁴⁴¹ This notice could potentially serve as an invitation to mine workers to become involved in an FFI. Instead of retrenchments, there could be a transfer of labour from mining operations to an FFI project. This would facilitate the socio-economic development of local communities. The MPRDA further empowers the Minister to order a directive to a mining right holder who issues the above-mentioned notice to ensure corrective measures in such circumstances.⁴⁴² There is, therefore, potential to mandate companies to facilitate transfer to an FFI.

⁴³⁸ A discretionary power is one that a minister may choose to use, they are not mandated to do so. These powers are usually signaled using permissive words such as 'may', 'allowed', and 'has'. These words do not suggest mandatory powers in most cases. 'Must' would be an example of a mandatory power conveyed on a minister.

⁴³⁹ MPRDA, ss 17(4A) and 23(2A). Also see Sch II Item 7(3C) of the MPRDA.

⁴⁴⁰ MPRDA, ss 17(4A) and 23(2A). Also see Sch II Item 7(3C) of the MPRDA.

⁴⁴¹ MPRDA, s 52.

⁴⁴² MPRDA, s 52(3)(a).

A plan to ameliorate the impact of mine closure on mine workers should adhere to the provisions of the MPRDA⁴⁴³ and the Labour Relations Act.⁴⁴⁴ Mining companies must ameliorate the social and economic impact on individuals, regions and economies where retrenchment or closure of the operation is certain.⁴⁴⁵ The process must include self-employment training programmes, training and re-employment programmes, and a portable skills development plan.⁴⁴⁶ These plans must be submitted to the Department of Mineral Resources and Energy 24 months prior to the commencement of the downscaling process.⁴⁴⁷

To transition to the FFI, redundant mine labourers can benefit from skills development aimed at FFIs. The mining company's business needs can be redefined to include post-mining activities. Thereby, the redundant labour force can be absorbed by another economic sector. i.e. the rehabilitation process and/or the establishment of an FFI.

The Mining Charter requires a mining company to invest in learnerships or scholarships in certain disciplines, including in science, technology, engineering and mathematics and provide skills training to mine workers.⁴⁴⁸ In addition, essential skills development in areas of environmental conservation and rehabilitation speaks directly to post-mining activities that can facilitate the continuation of local economies⁴⁴⁹ In compliance with this provision, the mining company will provide mine workers with portable or alternative skills to use once the mine closes.⁴⁵⁰

⁴⁴³ MPRDA, s 52(1).

⁴⁴⁴ Labour Relations Act 66 of 1995, s 189; Department of Mineral Resources *Guideline for the Submission of a Social and Labour Plan As Required in Terms of Regulation 46 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002)* 22.

⁴⁴⁵ Department of Mineral Resources *Guideline for the Submission of a Social and Labour Plan As Required in Terms of Regulation 46 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002)* 23.

⁴⁴⁶ Department of Mineral Resources *Guideline for the Submission of a Social and Labour Plan As Required in Terms of Regulation 46 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002)* 23

⁴⁴⁷ Department of Mineral Resources, *Guideline for the Submission of a Social and Labour Plan As Required in Terms of Regulation 46 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002)* 23.

⁴⁴⁸ Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry, 2018 (GN 1002 in GG 41934 of 27-09-2018) (2018 Mining Charter), Item 2.3.1.

⁴⁴⁹ Item 2.3.1 of the 2018 Mining Charter.

⁴⁵⁰ Item 2.3 of the 2018 Mining Charter. See also Item 4.1 of the Broad-Based Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry, 2004 (GN 1639 GG 26661 of 13-08-2004) (2004 Mining Charter); Broad-Based Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry, 2010 (GN 838 GG 33573 of 20-09-2010) (2010 Mining Charter); Ncube VH *Rethinking Enclave Development in View of the African Mining Vision (AMV): Are There Any Lessons for the Social and Labour Plan System in the AMV?* Master of Laws dissertation University of Cape Town (2019) 66.

Therefore, the Mining Charter is an instrument that could support the tenets of developing a post-mining FFI. By encouraging portable skills development, the Charter creates the potential for mining companies to set up their labour force in such a way that allows for an effective transition of labour away from mining activities towards agriculture and downstream manufacturing initiatives for the FFI. This also has the potential to guide a cultural shift towards green jobs in the mining areas, seeing agriculture and manufacturing as the next stage in the evolution of the mining community.

Connections between retrenchments and absorbing the redundant mine workers into FFIs could be encouraged by existing tax incentives. The mining company can register a learnership or other development programme with the relevant Sector Education and Training Authority (SETA). In the case of an FFI, SETAs such as the Mining Qualifications Authority, the Manufacturing Engineering and Related Services Sector Education and Training Authority, and the Fibre Processing and Manufacturing Sector Education and Training Authority could assist in authorising training plans for mine workers to enter an FFI. Once a mining company is registered with the relevant SETA there is an associated SARS tax break. An example of such an incentive it is the Learnership Tax Incentive.⁴⁵¹ The learnership requires a clear formal learnership contract⁴⁵² to qualify for SETA registration.⁴⁵³

However, the benefits of the FFI need not be limited to former mine workers. FFIs have substantial potential to benefit members of the wider mining community, including people living in the general mining area, who may not be directly associated with the mining activities. If the local economy is boosted by the FFI, everyone in the area benefits. Therefore, the FFI and its associated contribution to local economic development should be reflected in the mine's SLP.⁴⁵⁴

The MPRDA established the Minerals and Petroleum Board, which advises the Minister on sustainable development⁴⁵⁵ and transforming and downscaling the

⁴⁵¹ Income Tax Act 58 of 1962, s 12H; South African Revenue Service *Guide on the Tax Incentive for Learnership Agreements* Legal and Policy Division 2008; Economic Tax Analysis Chief Directorate *Learnership Tax Incentive Review* (2016).

⁴⁵² 'Registered learnership agreement' is defined as one which is: registered in accordance with the Skills Development Act, 1998; and entered into between a learner and an employer before a date specified in the Income Tax Act.

⁴⁵³ The incentive is regulated by s 12H of the Income Tax Act 58 of 1962.

⁴⁵⁴ MPRDA, reg 46(b).

⁴⁵⁵ MPRDA, s 58(1)(a)(ii).

mineral and petroleum industry.⁴⁵⁶ The board must, in consultation with the Mining Qualifications Authority, ensure the promotion of human resource development in the mining sector.⁴⁵⁷ The board contains representatives from relevant state departments,⁴⁵⁸ organised labour,⁴⁵⁹ organised business,⁴⁶⁰ non-governmental organisations,⁴⁶¹ community-based organisations,⁴⁶² designated agencies,⁴⁶³ and at least three individuals with specific expertise to aid the quality of the board's advice.⁴⁶⁴ The Minerals and Petroleum Board serves as a platform for communication between the various stakeholders and could assist in structuring model agreements for the establishment of an FFI.

6. Law as a Catalyst for Change: Promises and Pitfalls

The assessment of the applicable legislation and policies concluded that the current legal framework for environmental rehabilitation of mine wasteland, the regulation of land use, the contractual basis of relationships, and the protection of communities is largely reactive. It is a framework of sticks, rather than carrots. In legislation dealing with mine land rehabilitation, this is probably to be expected. However, our legal system has not previously catered for innovative methods of mine land rehabilitation such as the one being explored by the FFI.

In certain circumstances, an FFI can already be accommodated under existing legislation and policies relating to mine rehabilitation and the mine's social and labour plan. However, to foster and promote the entrepreneurial economy envisaged in the National Development Plan,⁴⁶⁵ lawmaking must become more proactive. Proactive lawmaking – promoting good behaviour through incentives – may enhance buy-in to achieve behavioural changes.

There are some prerequisites for the law to act as a catalyst for change. Law and policy changes require clear goals, political will (or 'affective commitment') and smart, informed choices about whether the instruments chosen are effective and

⁴⁵⁶ MPRDA, s 58(1)(a)(iii).

⁴⁵⁷ MPRDA, s 58(1)(b).

⁴⁵⁸ MPRDA, s 59(2)(c).

⁴⁵⁹ MPRDA, s 59(2)(d).

⁴⁶⁰ MPRDA, s 59(2)(e).

⁴⁶¹ MPRDA, s 59(2)(f).

⁴⁶² MPRDA, s 59(2)(g).

⁴⁶³ MPRDA, s 59(2)(i).

⁴⁶⁴ MPRDA, s 59(2)(h).

⁴⁶⁵ National Planning Commission *National Development Plan 2030: Our Future - Make It Work* (2011).

democratically and politically legitimate. The cost of any change – both financial and social – must also be considered.

Proposed amendments to the environmental regulations may need to be implemented to change mine rehabilitation goals. This legal reform would need to remove the obligation for mining right holders to return the land to its pre-mining state, as the only acceptable outcome. The focus of rehabilitation efforts would need to be shifted to promoting a sustainable end-state. This may alleviate the impact of legislative restrictions regarding biodiversity, and enable bioremediation using fibrous plants.

The government should create an enabling environment for environmentally and socio-economically sustainable projects on degraded mining land. This can be achieved through financial incentives and greater efforts at intergovernmental relations and co-ordinated legislation. Different government departments should also play a more active role in facilitating agreements between the mining right holder, the landowner and the local community.

Annexure A: Summary of most relevant legislation and policy documents

General	Environmental	Land Use Management	Stakeholder Involvement
Mineral and Petroleum Resources Development Act 28 of 2002	National Environmental Management Act 107 of 1998	Spatial Planning and Land Use Management Act 16 of 2013	Interim Protection of Informal Land Act 31 of 1996
National Planning Commission <i>National Development Plan 2030: Our Future - Make It Work</i> (2011)	National Water Act 36 of 1998	Local Government: Municipal Systems Act 19 of 2008	Department of Mineral Resources <i>Revised Social and Labour Plan Guideline</i> (10-2010)
United Nations General Assembly <i>Sustainable Development Goals</i> (2015)	National Environmental Management: Waste Act 59 of 2008	Various provincial legislation addressing spatial planning and land use management, for example, the Western Cape Land Use Planning Act 3 of 2014; Land Use Planning Ordinance 15 of 1985; Townships Ordinance 9 of 1969; Town-Planning and Townships Ordinance 15 of 1986	Department of Mineral Resources <i>Guideline for Consultation with Communities and Interested and Affected Parties – As Required in terms of Section 10(1)(b), 16(4)(b), 22(4)(b), 27(5)(b) and 39 of the MPRDA</i>
	National Environmental Management: Biodiversity Act 10 of 2004	Municipal Bylaws addressing municipal planning, spatial planning and land use management	Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry, 2018 (GN 1002 in GG 41934 of 27-09-2018)
	National Environmental Management: Air Quality Act 39 of 2004		

MINING RIGHT APPLICATION



ENVIRONMENTAL AUTHORISATION APPLICATION



WATER USE LICENCE APPLICATION



REZONING APPLICATION (Example from City of Cape Town)

