



Planning for post-mining economies: Misconceptions and opportunities

by L. Marais

Affiliation:

Centre for Development Support,
University of the Free State, South Africa

Correspondence to:

L. Marais

Email:

MaraisJGL@ufs.ac.za

Dates:

Received: 15 Oct. 2025

Published: April 2025

How to cite:

Marais, L. 2025. Planning for post-mining economies: Misconceptions and opportunities. *Journal of the Southern African Institute of Mining and Metallurgy*, vol. 125, no. 4, pp. 217–224

DOI ID:

<https://doi.org/10.17159/2411-9717/MC22/2025>

ORCID:

L. Marais

<http://orcid.org/0000-0002-0299-3435>

Abstract

The development of a post-mining economy is generally framed as accessible and desirable and something that mining companies, consultants, and the government can, and should, plan for. It is indeed possible. Yet, most mining regions, other than the big metropolitan municipalities, find economic diversification after mining challenging, despite their grand plans, consultant reports, and company intentions. Their efforts blind them to other ideas that are often prerequisites to diversification. This paper highlights some economic and social misconceptions about economic diversification and explains where planning goes wrong. Mistakes typically stem from ignorance and misunderstandings. Planners and policy makers fail to grasp the essential requirements for economic diversification. They underestimate the structural constraints created by mining. They do not see how mine rehabilitation is linked to economic diversification. They generally do not understand the South African space economy or the nature of new economies. The paper also proposes a more careful consideration of those economic aspects that mining cities have control over, such as land use management and infrastructure. The paper further explains how understanding long-term dependencies can help prevent governance failures. The social disruption that accompanies mine decline and closure must be recognised and dealt with. The mines must plan for decline as a way to resuscitate the economy. It concludes with a framework for assessing and developing a post-mining economy.

Keywords

mine closure, post-mining economies, mining regions, opportunities, misconceptions

This paper is based on a presentation given at the Mine Closure Conference 2025 19-20 February 2025, Maslow Hotel, Sandton, Johannesburg

Introduction

Mine closure holds risks for mining economies worldwide. Success stories of diversification away from mining are few. Johannesburg, Manchester, and the Ruhr valley are exceptions. In the Global North, government subsidies have supported post-mining economies, but such subsidies are less likely to materialise in the Global South. Yet, despite the difficulty of building a post-mining economy, mining companies, local governments and consultants typically assume that planning can fix the problem. They argue that early planning for economic diversification is vital. But planning is not a sure-fire technical solution and post-mining economy planning has met with few successes in South Africa.

Although the literature on mine closure has grown, five shortcomings should be noted: a large portion of this work focuses on the environmental aspects of closure (Zine et al., 2023), the work is mainly in the domain of mining companies (Bainton, Holcombe, 2018), the social aspects receive much less attention (Bainton, Holcombe, 2018), the assumption is that policies integrate the social aspects into the environmental aspects (Vivoda et al., 2019), and the work on economic diversification away from mining seldom reflects on the global literature on economic change and diversification – Bruel and Atienza, (2022), can be viewed as one of a few exceptions. Consequently, an understanding of how to integrate the environmental, social, and economic aspects of mine closure is poor. Post-mining plans seldom take proper cognisance of the economic constraints associated with mine closure.

The literature often cites international examples of successful post-mining economies to motivate for early planning. However, the value of these case studies should not be overstated. Weller et al. (2020) question whether such examples exist, and Beer et al. (2022) note that, despite some successes, failures dominate the scene. One often-cited example of good practice is the rehabilitation and economic diversification of the Ruhr valley. However, there are limitations to transposing this example (Measham

Planning for post-mining economies: Misconceptions and opportunities

et al., 2024). Most obviously, the estimated 38 billion euros spent by the German government is unlikely to be replicated elsewhere (Oei et al., 2020). Other factors inhibiting transferability are remote locations with low population densities and limited market access, governance structure and capacity concerns, low skills, and lack of infrastructure and non-mining employment opportunities (Measham et al., 2024). Despite these constraints, Measham et al. (2024) have identified three ingredients for success to be learnt from the examples: delegated decision-making, a long-term time frame, and large-scale investment.

Many post-mining plans make wrong assumptions about how to achieve economic diversification and fail to consider the structural constraints that hinder a move away from mining. This paper brings together the international and the South African literature on mine closure and planning post-mining economies. In the process, there is a critical assessment of the existing attempts, the identification of several misconceptions, and provision of a framework to support the planning for a post-mining economy.

The literature

This paper reviews the global and then the South African literature and follows this with a conceptual overview of planning-related issues in South Africa.

Global literature

This section looks first at the literature on the economic diversification of mining regions and then at a new set of literature originating from Australia. Only a small body of work links economic diversification in mining areas with the literature on evolutionary economic geography or economics. The more significant debates have often taken place only at country level, with subregions being ignored (Bruel, Atienza, 2022). It is insufficiently recognised that economic diversification is more complex in mining areas than in non-mining areas (Harding, Venables, 2016).

Research has identified several factors that make it difficult to diversify a mining economy: resource price volatility (Van der Ploeg, 2012), higher wages in mining areas (Shoo, 2020), production linkages that benefit only the larger urban areas (Scholwin, 2021), and mining-related institutions eroding regional agency (Hayter, 1990). Over the past two decades, evolutionary economic geography has added the notions of relatedness (Boschma, 2016) and regional branching (Boschma, Frencken, 2011; Kogler et al., 2023). 'Relatedness' refers to the way new economic sectors depend on the skills and knowledge of existing financial sectors. Although relatedness has been studied mostly at a national level, when applied to regions it becomes clear how important the regions are as a foundation for expansion into other economic sectors (Boschma, Frencken, 2011). Another set of research has argued for a broader understanding of assets to assist economic diversification, beyond just relatedness. MacKinnon (2019) adds natural, infrastructure and material, industrial, human and institutional assets while Haslam McKenzie and Eyles (2024) emphasise the assets that local authorities have. Hassink et al. (2019) argue that the assets of other regions are also important, and Isaksen and Trippel (2019) emphasise local leadership, political actors, and the role of the state. Finally, the concept of 'inter-path relations' explains the relationship between existing industry and new industries (a form of regional branching), which has been difficult to achieve in the case of mining because it is often a very dominant sector (Hassink et al., 2019).

In the context of the above research, Bruel and Atienza (2022) identify three issues related to the economic diversification of

mining regions: regional context conditions, understanding the multi-scalar implications of mining, and the relevance of mining's impermanence, its temporary nature. 'Regional context' refers to the regional structure and the way mining influences its economic structure. This context must be taken into account in the case of peripherally located mining regions, which have limited endogenous capabilities, in other words, only a small range of skills. For Bruel and Atienza (2022), this implies that "diversification in agglomerated areas that host extractive industries will be less challenging than in resource peripheries characterised by small human settlements, extremely high levels of specialisation in extractive industries and a lack of non-extractive industries." Because the mining economy affects the structure of an existing region, it is vital to understand the relationship between mining and non-mining economic structures (inter-path relations). Studies emphasising inter-path relations often highlight regional assets. Regional development also depends on institutions and the region's agency, in other words its ability to do things by itself rather than being subject to control. Mining inhibits entrepreneurial culture. Being employed on the mine feels secure and deadens the drive to diversify. Bruel and Atienza (2022) say mining regions and countries should be analysed in a multi-scalar way, rather than focusing too narrowly. Links between mining and the economy can be found at several scales. For example, mines that use the fly-in-fly-out method for their workforce benefit the host cities more than the mining towns. Large mining cities, being home to the services industries, such as law and engineering, often draw more benefit from mining than the smaller ones. Bruel and Atienza (2022) also note that mining and its link to other sectors should be understood in terms of mining's temporary nature, and they emphasise the implications of booms and busts.

Australia has set up the Cooperative Research Centre for Transformations in Mining Economies. The Centre frames the problem as a shift from thinking about mine closure to thinking about transforming the mining estate (CRC TiME, 2024). The term 'mining estate' means the area where the authorities provide legal clearance for mining operations. In talking of 'estate transformation', however, the Centre refers not only to the mining site, but also to the re-use of infrastructure and the community implications of transitioning away from mining. Conceptually, this idea of estate transformation is essential for economic diversification, as it emphasises life beyond the mining activity and outside the mining sites. Following here, the paper lists five main ideas from the Australian research.

First and foremost, the Australians remind us that mining is temporary, that mine closure could mean the end of mine community life. They thus call for a more careful consideration of life beyond the mine and the uncertainty that closure brings. Secondly, and following on from the first point, they call for a shared understanding of what mine closure means and what a post-mining economy might look like (Measham et al., 2024). Such a shared understanding should influence closure plans and rehabilitation initiatives.

Thirdly, they say that to think clearly about mine closure and the development of post-mining economies one needs to incorporate "a wider range of values and perspectives into analysis, planning, decision-making, and actions about closure and transitions" (Measham et al., 2024). Earlier thinking about mine closure narrowly valued land and ecological rehabilitation and finding alternative jobs for miners (usually redirecting staff to other operations within the company). Land rehabilitation often uses a

Planning for post-mining economies: Misconceptions and opportunities

narrow set of indicators like climate, soil type, and water access. With the rise of the concept of sustainability, 'values' have become essential in thinking about mine closure (Foran et al., 2024). In a comparative case study in Australia, Foran et al. (2024) found two overarching values: net-positive outcomes and the equitable distribution of responsibility, risk, and opportunity during mine closure processes.

Fourthly, the Australians note the need to integrate social and economic considerations with the technical, engineering, and environmental aspects. The fifth idea draws attention to the regional scale of mine closure activities and the need to look beyond single closures to the accompanying long-term regional concerns (Everingham et al., 2018). They note that companies often do land rehabilitation on their mined land but disregard regional issues and ignore the more comprehensive range of issues that are at stake. They advise that mine closure plans could benefit more closely from understanding the details of regional transitions (Measham et al., 2024).

South African literature

The South African literature falls into three categories of concerns relevant to developing post-mining economic diversification: 1) The impact of mine closure on communities, 2) the dependencies mining creates that hinder this development, and 3) the difficulties involved and the plans that organisations make in the hope of achieving it.

A growing body of work reflects on case studies of mine closure and the social consequences (Marais, 2013a; 2013b; Ackerman, 2018; Marais et al., 2022; Marais, Cloete, Lenka, 2022). This work shows how dependent mine communities become on mining (Marais, 2023; Matebesi et al., 2024) and how closure brings new forms of social disruption. Marais et al. (2022) show, for example, that the declining gold mining areas have some of the highest crime rates in South Africa. This consequence of badly managed mine closure makes it hard for people and their organisations to counter the effects of mine closure. The evidence of social disruption at closure contradicts the findings of similar work in the Global North, where migration flows away from mining so that social disruption does not occur at the mining sites.

The second body of work investigates goal dependency in mining policy and its negative effect on mine closure plans. Historically, migrant labour systems and compound living prevented the black workforce from settling permanently near the mines. By the mid-1980s this had started to change as urban landownership became available to the black workforce. Since the end of apartheid, homeownership and permanent settlements have become the goal (Marais, 2018). This determined pursuit of permanence in housing and settlement is an example of a goal dependency. By not acknowledging the temporary nature of mining and the reality of mine closure, policy makers and planners risk locking people into areas in decline (Cloete, Marais, 2021). The evidence points to the importance of considering the impermanence of mining when planning and designing mining and community infrastructure.

The third body of work reflects on the inability of planning to develop appropriate post-mining economies (Matebesi et al., 2024; Sesele, Kuzambisa-Kiingi, 2024). Many grand plans are made, but they are seldom implemented. They often depend on extensive projects that would need external funding. The focus on grand plans blinds the role players to economic change that is occurring. It distracts them from taking control of matters that are within their capability, such as local infrastructure and land use regulations.

Conceptual issues associated with planning

Good leadership, governance and planning are essential for economic diversification (Hayter, 1990). It is hard to argue that one should not plan for a post-mining economy. So, often, the industry suggests that the answer lies in early planning. Of course, it does. What is less clear is the nature of that planning and how it should be done. In this paper, the word 'planning' implies both leadership and governance. Two common problems of planning are its tendency to become theatrical and its dependence on steering.

Governance and planning as theatre are not new (Meyer, Towan, 1977; Ding, 2020). The state often resorts to theatricality when citizens' expectations exceed what it can deliver. It needs to create the impression of good governance. Public participation then becomes a performative ritual (Futrell, 1999). Harrison and Todes (2024), in their book "The Promise of Planning: Global Aspirations and South African Experience Since 2008", describe how this performative type of planning has become common in South Africa.

The overreliance on 'steering' is another problem. The term 'steering' refers to how authorities guide, coordinate, and influence actors' actions in governance decision-making (Beunen, Van Assche, 2021). A distinction is made between planning (steering) and plan implementation (rowing). When steering overemphasises the planning component, it can lead to rigidities in governance systems. Steering began to be overemphasised with the advent of the 'new public management' paradigm of the late 1970s and early 1980s (Stoker, 2006). The idea was to delink the governance structure (the councils) from those who implement the plans (the bureaucrats). Prominent concepts in this paradigm are outcomes-based performance, goal setting, customer satisfaction, and businesslike governance. It has been substantially criticised for being unable to achieve many of its original objectives of greater efficiency and savings (Kuhlmann et al., 2008). This criticism led to the rise of network governance where governance leans more towards relationships and partnerships than being dependent on steering. Harrison (2001) argued more than twenty years ago that South African strategic planning in the form of integrated development plans was closely linked to the new public management paradigm. Marais et al. (2021) point out that high levels of steering are a concern in places that experience mine closure and are unable to build an alternative post-mining economy. In Newcastle, KwaZulu-Natal, substantial progress has been made because a more hands-on approach has been followed (Marais et al., 2021).

Delinking the plan-making and implementation phases encourages the performative nature of planning. Plan-making becomes theatre. The focus is a visionary or imaginary future, regardless of the possibility of achieving it.

Mine closure and post-mining economies: Planning misconceptions in South Africa

Closure planning usually occurs in two distinct areas: the mine and the community. This paper acknowledges both, but base the analysis on the community perspective, the public domain. Ideally the two would be integrated, but in practice researchers seldom manage to do this. There are four misconceptions about planning post-mining economies in South Africa.

Misconception 1: We simply need more early planning

Early planning is often seen as the solution to the problems of mine closure. The message is to start as early as possible with economic diversification. Such a response ignores several structural constraints (Bruel, Atienza, 2022) and planning capacity

Planning for post-mining economies: Misconceptions and opportunities

constraints. Harrison and Todes (2024) show how institutional and organisational decay have affected planning in South Africa. This is particularly concerning, as planning has been associated with government responsibility. The state's inability to be an agent of change (and to plan), coupled with significant budgetary constraints, is a problem for planning a post-mining economy. The problem is evident in the inability to dovetail social and labour plans with integrated development plans (Van der Watt, Marais, 2021). Implementation is affected by high levels of steering (planning) and limited attention to implementation. As the institutional problems have increased, steering has become even more dominant.

The collection by Matebesi et al. (2024) offers several examples of unrealistic plans and the inability to implement them. These include plans generated by mining companies (Mabele, Nel, 2024) and by local government – sometimes funded by mining companies (Ntema, 2019; Kuzambisa-Kiingi, 2024; Sesele, Kuzambisa-Kiingi, 2024). Several factors make these plans unimplementable: they are unrealistic, they do not understand the local context, they do not understand the national space economy, they divert agency to the next sphere of government, and they ignore structural constraints associated with the impacts of mining.

For example, Matjhabeng (the Free State Goldfields) has made several plans for developing a post-mining economy since the late 1980s (Marais, 2013b; Sesele, Kuzambisa-Kiingi, 2024). These plans have often assumed there would be extensive infrastructure investment by the provincial or national government and extensive funding would be needed from private investors. There are three concerns about the assumption that massive external financing is required to develop a post-mining economy, despite the lesson learnt from international experience. Firstly, the excessive focus on creating a grand plan results from the steering approach to planning that delinks planning and implementation. A visionary plan that requires extensive investment has far less chance of success than finding simple mechanisms for change. Plan-making has become the indicator of success, while implementation is not a concern. Secondly, it negates the idea of simple incremental planning. With a grand plan, no one needs to look for existing assets and build on them. In practice, a grand plan ignores what people do to adapt to mine closure, in other words, it ignores their agency. Understanding livelihood strategies (rather than needs) should help build a post-mining economy. Thirdly, as highlighted in the aforementioned literature, grand plans ignore several structural economic and planning concerns associated with mining. They assume that a transition from mining does not need to take into account concepts like relatedness or to deal with the long-term consequences of mining for value chains. The problems caused by this shortsightedness are compounded by structural and planning constraints in many mining settlements that inhibit the development of a post-mining economy. Marais and Nel (2016) show, for example, how expansive infrastructure created in response to mining growth becomes a stumbling block at closure. Broad roads, neighbourhood shopping centres and large green spaces are no longer maintainable. They become a drain on municipal finances and the environment decays. Mukumba (2024) has found that in Zambia the urban densities of Copperbelt mining cities are nearly three times lower than those of the non-mining cities. These low urban densities affect economic threshold levels, such as the level of economic viability needed for small business to prosper, and the ability to develop post-mining economies.

Another problem is that these plans are often for imaginary large-scale projects. The concern here is not that large projects are

necessarily an inappropriate response, but rather that the one-dimensional focus on this type of project limits the possibilities. Some of these large-scale projects lack a regional focus, and they are often not integrated into market value chains, and do not build on existing knowledge and skills.

Added to this, the changing status of the mining estate is seldom integrated into these plans, though there has been some progress in this regard. The question is how this land and infrastructure can be repurposed. A common problem is the inability to consider mine land rehabilitation as a foundation for economic activity. When this link is recognised, the planners often focus on an economic activity of a predetermined single type. A broader conceptualisation linked to what people and communities would value at closure could help in this process.

Grand plans also ignore those things over which planning systems have control, such as land use. Land use regulations need to be suited to the current economic climate. Generally, booms require control. Busts, however, require less power and simpler ways of changing land use (Marais et al., 2016). These simple mechanisms are often overlooked in planning post-mining economies.

Planners tend to think that the rest of the economy functions like the mining industry. Their simple assumption is that one significant investment upfront will change a city's or a community's economic landscape. Other industries, however, often function with incremental and slow change and a life-long adaptation process. Grand planners usually focus on a single alternative (which requires extensive funding) as opposed to incremental and multi-faceted approaches.

This paper is not arguing here that planning is, *per se*, a misguided response. Rather, the concern is about the overemphasis on plan-making at the expense of implementation, and the grandiosity of the plans. In many cases, the results thereof are failure to integrate the various mine closure processes, negative implications for mining communities, disregard for what people do to adapt to closure, blindness to the structural constraints, and neglect of the simple planning responses that are available to support closure.

Misconception 2: Competitive advantage will help economic diversification

Plans are often the result of much effort to demonstrate competitive advantage (Porter, 2008). Planners who focus on competitive advantage tend to ignore structural constraints in the economy. The international literature shows that economic diversification requires an understanding of how mining affects mining regions, how it relates to other industries, and how it negates local agency. This is why Bruel and Atienza (2022) place the emphasis on the local context, and why others, such as Boschma (2016), argue for relatedness, drawing attention to the complexities that go beyond an analysis of competitive advantage.

In South Africa, however, planners commonly focus on competitive advantage (Porter, 2008) and overlook the complexities. They typically envisage only one element of advantage, for example an advantage in chemical manufacturing, forgetting that skills, knowledge, and institutions are essential to drive economic change. The formal and informal rules associated with mine closure often negate closure plans. Kuzambisa-Kiingi (2024), noting the failure to find systematic approaches in post-mining regions, shows how the inability to enforce mine closure institutions for land rehabilitation in the West Rand has contributed to social disruption and high crime levels.

Planning for post-mining economies: Misconceptions and opportunities

Closely linked to the problems associated with competitive advantage is disregard for the South African space economy. This has been noted by Bruel and Atienza (2022), who stress the importance of understanding post-mining economies from a multi-scalar perspective. The spatial structure of the South African economy today is essentially fixed, and finding alternative products or services is difficult. But many planners assume it is easy to disrupt existing value chains by focusing on the region's agricultural or manufacturing sector. They do not reflect on the business case, and they tend to assume that economic diversification will materialise simply because they say it will. Many companies are investing in high-value and alternative crops as part of the land rehabilitation processes. But despite some small successes, the overall concerns remain as these innovations compete with existing production and only succeed if they find a niche.

As was learned from the international literature, a multi-scalar approach to economic diversification is crucial. Too often, the competitive advantage approach does not see that regional economic diversification requires a careful understanding of economics and governance at scales other than the regional.

Misconception 3: Decline should lead to growth

Most grand plans simply assume that mine closure will lead to further growth and one should not pay much attention to the associated decline. However, a global literature has developed around planning for decline (Gans, 1975). It suggests that regions experiencing economic decline should accept this reality and redo their spatial and financial planning on the basis of the decline. Such an approach could lay the foundation for renewed growth in future. Planning for decline would include spatial planning and restructuring engineering services.

Mine decline can bring population decline in its wake. Two examples from South Africa are Matjhabeng (the Free State Goldfields) and Merafong (the West Rand). The current plans for these places all focus on finding new growth paths. Yet these places could benefit from extensive changes to land use regulations and rightsizing land use (reducing service land) and infrastructure.

The more critical question in this respect is how to develop settlements and public infrastructure in a context of decline and uncertainty. Marais (2023) contends that dependence on the goal of generating homeownership and opening towns near mines have been a major stumbling block during the decline. Matebesi et al. (2024) note that planning for a ghost town could be a reasonable response and that policy makers' aversion to ghost towns is misplaced. In planning settlements where mine decline is likely, much more attention should be devoted to the concepts of modular infrastructure (Marais, Nel, 2016) and 'tactical urbanism' (Mould, 2014). These approaches take into account the impermanence of mining. Mine closure planning and planning for post-mining economies need to plan deliberately for decline, rather than pretending it is not happening.

Misconception 4: Closing the mining estate is the most important aspect

The Australian literature emphasises three essential considerations in mine closure: extending beyond the mining estate, integrating technical closure thinking with post-mining ideals, and taking a regional approach. The authors of this paper already stated the importance of obtaining mine closure, although this is mostly not happening in South Africa. Mine closure could also have diversification value. The fact that there is very little progress with

closing mines hampers economic diversification. Mechanical closure could have economic value. And a more active link between closure and a post-mining economy could further assist, as explained in the following.

South Africa offers very few examples of mine closure planning on the mining estate being linked to post-mining economic thinking outside of the mining operations. One problem is that mine closure regulations have technical site-specific requirements on which they focus and seldom require mining companies to consider social and economic issues. Another is the uncertainty associated with mine closure: a mine may close and reopen, and the date of final closure may be unclear even to the company, and the mine may be partly reopened by another company. Placing mines in care and maintenance further increases uncertainty, which does not help with planning. Lack of transparency about closure is also a big problem; companies often withhold information to ensure that productivity remains high (Marais et al., 2005).

A further problem is the way in which the mining industry operates with a mostly front-end approach. Sinking a shaft requires a large investment. As a result, despite early closure planning, the closure cost is often unknown at the start of the process and usually underestimated (Dunow, Kalisch, 2022). A front-end approach on the social side is the social licence to operate that mines are required to have. Getting this licence requires a concerted effort to convince local communities that they will benefit. It is seldom realised how the investments at the start associated with the social licence can impede the development of a post-mining economy (Marais et al., 2024). The rationale for the social licence is to provide social services and ensure that the community sees improvements. Thinking about a post-mining economy many years in the future would not help a mining company to obtain its social licence.

Towards a framework for developing a post-mining economy

The foregoing may have given the impression that there is no place for planning in developing a post-mining economy. The proposed conceptual framework depicted in Figure 1 may seem to contradict this. This framework is indeed a plan of a kind, but a plan on a broader scale, one that takes into account the problems and constraints, and institutional and organisational concerns that are currently being overlooked, and one that keeps in mind the feasibility of implementation.

The framework shows the factors to consider when planning for economic diversification. The mining site and the region where mining occurs are the starting points. The framework then identifies a set of process requirements: integrating technical and social aspects, sharing closure information, developing post-mining values, negotiating closure, understanding the importance of a regional approach, using an incremental planning process to evaluate progress and being flexible in implementation rather than taking a steering approach that prescribes a plan without any feedback mechanism being available.

The framework insists on careful consideration of economic aspects. It has been argued in the aforementioned that current plans are inadequate. The framework shows the importance of understanding the broad range of issues involved in economic diversification and not making simplistic assumptions about it. Issues that require attention in planning a post-mining economy are: the local context; the location and the existing economic structure; the national space economy and a multi-scalar assessment of the economic impacts; the adverse effects of mining on the

Planning for post-mining economies: Misconceptions and opportunities



Figure 1—A framework for thinking about mine closure and the development of a post-mining economy

region (social and economic considerations must be integrated); understanding the wide range of assets available, such as infrastructure and skills (but also the dependencies created by those assets and the feasibility of repurposing them); an assessment of labour issues in terms of wages, skills, knowledge and relatedness; the agency of local people; the capacity of the state; informal and formal institutions or rules; avoiding social disruption that impedes economic stability; and understanding the potential role of land use regulations.

The overall aim of planning is to develop and design post-mining economies that consider the inherent complexities, value temporariness, and try to avoid long-term dependency (and harm) from the start of the mining process. This can be done without clearly articulating what the end product needs to be, and it should allow for experimentation while the mine is still operating.

Understanding mining regions and their economic structures and managing the planning and implementation will go a long way towards addressing the many concerns with current plans. The availability of funding for the repurposing, or building of new infrastructure, together with state capacity problems, will remain a concern. But an alternative agreement-making process and working with civil society could be a solution.

Conclusion

Creating post-mining societies and economies is a global concern. Successes are few. This paper reviewed some of the most recent literature to help explain why diversifying a post-mining economy is difficult. It also pointed out two conceptual problems that cause mistakes in planning and governance: planning as theatre and the role of steering in planning. A review of the South African literature brought to light some little-recognised issues: the social disruption that accompanies mine decline, the goal dependencies in policies that make mine closure difficult, and the almost complete absence of successful planned post-mining economies in this country.

In reviewing both the local and global literature, four misconceptions about planning post-mining economies in South Africa were identified: the need for more planning, the misplaced emphasis on competitive advantage, thinking that new growth paths are the only appropriate response to mine closure, and the exclusive focus on the closure of the mining estate.

The paper concludes with a draft framework of issues to consider in developing a post-mining economy. In essence, the planning process should be orientated less to steering and more to implementation, especially of tangible things like land use change that are immediately within a mining city's capabilities. The principles on which the framework is based are: integrating technical and social factors, sharing closure information, developing post-mining values, negotiating closure, understanding the importance of a regional approach, using an incremental planning process to evaluate progress, and being flexible in implementation.

Overall, post-mining planning must recognise and account for the structural problems of mining economies. Too often, South Africa's plans for post-mining economies are mere theatre.

References

Ackerman, M., Van der Waldt, G., Botha, D. 2018. Mitigating the socio-economic consequences of mine closure. *Journal of the Southern African Institute of Mining and Metallurgy*, vol. 118, no. 4, pp. 437–449.

Bainton, N., Holcombe, S. 2018. A critical review of the social aspects of mine closure. *Resources Policy*, vol. 59, pp. 368–478.

Beer, A., Haslam McKenzie, F., Weller, S., Davies, A., Ziemska, M., Holmes, K., Keenan, J. 2022. Post-mining land uses. CRC TiME Ltd, Brisbane.

Beunen, R., Van Assche, K. 2021. Steering in governance: evolutionary perspectives. *Politics and Governance*, vol. 9, no. 2, pp. 365–368.

Boschma, R. 2016. Relatedness as driver of regional diversification: A research agenda. *Regional Studies*, vol. 51, no. 3, pp. 351–364.

Boschma, R., Frencken, K. 2011. Technological relatedness and regional branching. *Beyond Territory: Dynamic Geographies of Knowledge Creation, Diffusion, and Innovation*.

Bathelt, H., Feldman, M., Kogler, D. (eds.). Routledge, London. pp. 64–81.

Bruel, M., Atienza, M. 2022. Extractive industries and regional diversification: A multidimensional framework for diversification in mining regions. *The Extractive Industries and Society*, 11, 101125.

Planning for post-mining economies: Misconceptions and opportunities

Cloete, J., Marais, L. 2021. Mine housing in the South African coalfields: The unforeseen consequences of post-apartheid policy. *Housing Studies*, vol. 36, no. 9, pp. 1388–1406.

CRC TiME. 2024. Transformations and Mining Economies. University of Queensland, Brisbane.

Ding, I. 2020. Performative Governance. *World Politics*, vol. 72, pp. 525–556.

Dunow, T., Kalisch, H. 2022. The high cost of poor closure estimates. Fourie, A., Tibbett, M. and Boggs, G. (eds.). *Proceedings of the 15th International Conference on Mine Closure*, Australian Centre for Geomechanics, pp. 1193–1200.

Everingham, J., Rolfe, J., Lechner, A., Kinnear, S., Akbar, D. 2018. A proposal for engaging a stakeholder panel in planning post-mining land uses in Australia's coal-rich tropical savannahs. *Land Use Policy*, vol. 79, pp. 397–406.

Foran, T., Ackerman, F., Barber, M. 2024. Values in post-mining regional transition: A political-economic regime approach, with insights from Australia. *The Extractive Industries and Society*, vol. 20, 101523.

Futrell, R. 1999. Performative governance: Impression management, teamwork and conflict containment in city commission proceedings. *Journal of Contemporary Ethnography*, vol. 37, no. 4, pp. 494–529.

Gans, H. 1975. Planning for declining and poor cities. *Journal of the American Institute of Planners*, vol. 41, no. 5, pp. 305–307.

Harding, T., Venables, A. 2016. The implications of natural resource exports for nonresource trade. *IMF Economic Review*, vol. 64, pp. 268–302.

Harrison, P. 2001. The genealogy of South Africa's integrated development plan. *Third World Planning Review*, vol. 28, no. 2, pp. 175–193.

Harrison, P., Todes, A. 2024. The Promise of Planning: Global Aspirations and South African Experience Since 2008. Routledge, New York.

Haslam McKenzie, F., Eyles, S. 2024. Future-proofing a local government authority for a post-mining future. *Geographical Research*, <https://doi.org/10.1111/1745-5871.12634>

Hassink, R., Isaksen, A., Trippel, M. 2019. Towards a comprehensive understanding of new regional industrial path development. *Regional Studies*, vol. 53, pp. 1636–1645.

Hayter, R. 1990. Innis' staple theory, exports, and recession: British Columbia, 1981–86. *Economic Geography*, vol. 66, p. 156.

Isaksen, A., Trippel, M. 2019. Exogenously led and policy-supported new path development in peripheral regions: Analytical and synthetic routes. *Regional Studies*, vol. 93, pp. 436–457.

Kogler, D., Whittle, A., Kim, K., Lengyel, B. 2023. Understanding regional branching: Knowledge diversification via inventor and firm collaboration networks. *Economic Geography*, vol. 99, no. 5, pp. 471–498.

Kuhlmann, S., Bohumill, J., Grohs, S. 2008. Evaluating administrative modernization in German local governments: Success or failure of the 'new steering model'. *Public Administration Review*, vol. 68, no. 5, pp. 851–863.

Kuzambisa-Kiingi, M. 2024. Institutional responses to mine closure in the West Rand. PhD thesis, University of the Free State, Bloemfontein.

Mabele, D., Nel, V. 2024. Tshikondeni: Mine closure in a deeply rural area. Matebesi, S., Marais, L. and Nel, V. (eds.). *Local Responses to Mine Closure in South Africa: Dependencies and Social Disruption*. Routledge, London, pp. 121–129.

MacKinnon, D., Dawley, S., Pike, A., Cumbers, A. 2019. Rethinking path creation: A geographical political economy approach. *Economic Geography*, vol. 95, pp. 113–135.

Marais, L. 2013a. The impact of mine downscaling in the Free State Goldfields. *Urban Forum*, 24, 503–521.

Marais, L. 2013b. Resources policy and mine closure in South Africa: The case of the Free State Goldfields. *Resources Policy*, vol. 38, pp. 363–372.

Marais, L. 2018. Housing policy in mining towns: Issues of race and risk in South Africa. *International Journal of Housing Policy*, vol. 18, no. 2, pp. 335–345.

Marais, L. 2023. *The Social Impacts of Mine Closure in South Africa: Housing Policy and Place Attachment*. Routledge, London.

Marais, L., Cloete, J., Lenka, M. 2022. The plight of mining cities in South Africa: Planning for growth and closure. *Cities*, 130, 103965.

Marais, L., Lenka, M., Cloete, J., Grobler, W. 2016. Emfuleni. Marais, L., Nel, E and Donaldson, R. (eds.). *Secondary Cities and Development*. Routledge, London, pp. 63–82.

Marais, L., Ndaguba, E., Mbadi, E., Cloete, J., Lenka, M. 2022. Mine closure, social disruption and crime in South Africa. *The Geographical Journal*, vol. 188, no. 3, pp. 383–400.

Marais, L., Nel, E. 2016. The dangers of growing on gold: Lessons from the history of the Free State Goldfields, South Africa. *Local Economy*, vol. 31, nos 1–2, pp. 282–298.

Marais, L., Nel, V., Rani, K., Van Rooyen, D., Sesele, K., Van der Watt, P., Du Plessis, L. 2021. Economic transitions in South Africa's secondary cities: Governing mine closures. *Politics and Governance*, vol. 9, no. 2, pp. 381–392.

Marais, L., Pelser, A., Botes, L., Benseler, A. 2005. Public finances, service delivery and mine closure in Koffiefontein (Free State, South Africa): From stepping stone to stumbling block. *Town and Regional Planning*, vol. 48, pp. 5–16.

Marais, L., Matebesi, S., Van der Watt, P. 2024. Social licensing and dependencies: implications for mine closure in South Africa. *Resources Policy*, vol. 95, 105120.

Matebesi, S., Marais, L., Nel, V. (eds.). 2024. *Local Responses to Mine Closure in South Africa: Dependencies and Social Disruption*. Routledge, London.

Measham, T., Walker, J., Haslam MacKenzie, F., Kirby, J., Williams, C., D'Urso, J., Littleboy, A., Samper, A., Rey, R., Maybee, B., Brereton, D., Boggs, G. 2024. Beyond closure: A literature review and research agenda for post-mining transitions. *Resources Policy*, vol. 90, 104859.

Planning for post-mining economies: Misconceptions and opportunities

Meyer, J., Towan, R. 1977. Institutionalised organisations: Formal structure as myth and ceremony. *American Journal of Sociology*, vol. 83, 2, pp. 340–363.

Mould, A. 2014. Tactical urbanism: The new vernacular of the creative city. *Geography Compass*, vol. 8, no. 8, pp. 529–539.

Mukumba, C. 2024. Urban Densities in Mining Cities in Zambia. Paper presented at Mining, Community and Closure in Africa Symposium, Centre for Development Support, University of the Free State, Bloemfontein, 21–23 August.

Ntema, L. 2019. Rustenburg: Boom and bust in a mining town. Marais, L. and Nel, V. (eds.). *Space and Planning in Secondary Cities: Reflections from South Africa*. SUN Media, Bloemfontein. pp. 203–218.

Oei, P., Brauers, H., Herpich, P. 2020. Beyond closure: A literature review and research agenda for post-mining transitions. *Resources Policy*, vol. 90, 104859.

Porter, M. 2008. *Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press, New York.

Scholwin, T. 2021. World cities and peripheral development: The interplay of gateways and subordinate places in Argentina and Ghana's upstream oil and gas sector. *Growth and Change*, vol. 52, pp. 111–129.

Sesele, K., Kuzambisa-Kiingi, M. 2024. Matjhabeng: Decline in the urban periphery. Matebesi, S., Marais, L. and Nel, V. (eds.).

Local Responses to Mine Closure in South Africa: Dependencies and Social Disruption. Routledge, London. pp. 67–79.

Shoo, S. 2020. The regional Dutch disease effect within China: A spatial econometric investigation. *Energy Economics*, 88, 104766.

Stoker, G. 2006. Public value management: A new paradigm for networked governance. *American Review of Public Administration*, vol. 36, no. 1, pp. 41–57.

Van der Ploeg, F. 2012. Natural resources: Curse or blessing? *Journal of Economic Literacy*, vol. 49, pp. 366–420.

Van der Watt, P., Marais, L. 2021. Implementing social and labour plans in South Africa: Reflections on collaborative planning in the mining industry. *Resources Policy*, vol. 71, 101984.

Vivoda, V., Kemp, D., Owen, J. 2019. Regulating the social aspects of mine closure in three Australian states. *Journal of Energy and Natural Resources Law*, vol. 37, no. 4, pp. 405–424.

Weller, S., Beer, A., Porter, J., Veitch, W. 2020. Identifying measures of success for a global best-practice thermal coal mine and thermal coal-fired power plant closure. Final report for Muswellbrook Shire Council, UniSA Business, Adelaide.

Zine, H., El Mansour, A., Hakkou, R., Papazoglou, E., Benzaazoua, M. 2023. Advancements in mine closure and ecological reclamation: A comprehensive bibliometric overview (1980–2023). *Mining*, 4, 798–813. ◆

WE CREATE THE SPACE YOU NEED FOR YOUR NEXT PROJECT.

With a reputation built on excellence, Jet Demolition is your trusted partner for technically challenging demolition works. We provide professional demolition services to industry, assisting multinational heavy industrial, mining, and metallurgical clients with rapid, cost-effective, technically-based solutions.

We focus on a practical approach to the most challenging projects, with an unparalleled emphasis on the safety of persons.



T: +27 11 495 3800
info@jetdemolition.co.za
www.jetdemolition.co.za

