

Répercussions de la loi sur le Développement des ressources minérales et pétrolières d’Afrique du Sud sur les niveaux d’exploitation minière, l’utilisation du sol et la population

May Hermanus, Joshua Walker, Ingrid Watson et Oliver Barker

Résumé

Le présent article postule que la clause « utilisez ou perdez » [vos titres miniers] de la MPRDA, la loi sud-africaine de développement des ressources minières et pétrolières de 2002, a eu pour effet d’accroître l’empreinte minière au pays. Même si elle a permis à de nouveaux intervenants, autrefois désavantagés, de faire leur entrée dans le secteur et d’éviter la mise en réserve des titres miniers, cette disposition semble avoir eu une portée environnementale et sociale négative inattendue. Nous appuyant sur des données sur l’empreinte minière puisées dans diverses sources, ainsi que sur des études de cas de dégradation environnementale et de conflits sociaux engendrés par l’exploitation minière, nous suggérons qu’il est temps de modifier la MPRDA.

Impact of the South African Minerals and Petroleum Resources Development Act on Levels of Mining, Land Utility and People

May Hermanus, Joshua Walker, Ingrid Watson and Oliver Barker¹

Abstract

This article argues that the “use it or lose it” clause in the 2002 Minerals and Petroleum Resources Development Act (MPRDA) of South Africa has led to an increased mining footprint. While allowing new, previously disadvantaged actors to enter the mining sector and avoiding “hoarding” of mineral titles, this provision also has unintended, negative social and environmental consequences. Using mining footprint data from a variety of sources, as well as case studies of environmental degradation and social conflict due to mining, we argue that it is time to reform the MPRDA.

Introduction

The Minerals and Petroleum Resources Development Act (MPRDA) heralded a new era of extractives policy in South Africa. When it came into effect in 2004, the state became the official custodian of all mineral resources. A key driver for adoption of the MPRDA was the desire to facilitate equitable access to and sustainable development of the country’s mineral resources for the benefit of all. The provisions aimed to change established patterns of mine ownership by enabling black and other historically disadvantaged South Africans to become mine owners and shareholders, while also promoting small-scale projects. Following its adoption, prospecting and mining right applications would ostensibly be processed on a “first come, first served” basis and “hoarding” of mineral rights was to be discouraged through “use it or lose it” provisions aimed at ensuring that mineral resources were exploited and not sterilised.

In this article, we explore the impact of the MPRDA on levels of mining activity and the concomitant social and environmental footprint of mines. We argue that this new legislation has accelerated the pace and scope of mining. This acceleration has brought more land disturbance, which has engendered negative, and clearly unintended, environmental and social consequences.

While the MPRDA has created some democratic dividends, these have come with detrimental effects to public goods and social harmony. It is time to re-evaluate and adjust the MPRDA in light of these effects. While recognising that the negative social and environmental effects of mining did not *begin* with the MPRDA, we argue that these processes have *amplified* since MPRDA came into effect. We demonstrate that the MPRDA has led to an increased and accelerated mining footprint. While currently available data does not allow us to make a direct link between MPRDA and the increased social and environmental conflict, we argue that the increased mining following MPRDA has had even more impact on these conflicts. We define conflict as “the coexistence of aspirations, interests, and world views that cannot be met simultaneously, or that actors do not perceive as being subject to simultaneous satisfaction, and is viewed in this assessment as ranging from low-level tension to escalated situations involving a complete relationship breakdown or violence” (Franks et al.:8).

When the MPRDA was conceived, it was designed to create the conditions for meaningful participation in the minerals sector by previously disadvantaged persons. Indeed, the new legislation governing South Africa's mineral sector *has* led to an increase in the dispensation of mining rights and permits, allowing a greater diversity and number of South Africans to participate in and reap the benefits of the country's mineral wealth. However limited the effect, the MPRDA has been able to expand the scope of economic and social citizenship. Yet these changes have had unintended consequences: social conflicts over mineral rights, and largely unaddressed environmental degradation.

The subtext of this article thus concerns land-use choices: what are the social and environmental consequences of giving priority to mining to the detriment of other possible land uses in South Africa? For purposes of space and clarity, we have chosen to focus principally on two resources and provinces: coal mining in Mpumalanga, and platinum mining in North West. We begin with an overview of the policies and legislation preceding the MPRDA, followed by statistical and cartographic data on its effects, a discussion of environmental and social conflict, and finally, concluding remarks.

Policy and legislative changes leading up to the MPRDA: The case of land rights

The MPRDA constituted a sea change in the organisation and governance of extractive industry in South Africa. Following the 1994 transition to democracy, the new government sought to create a regime for governing extractive industries that would respond to the claims for the redistribution of land and wealth to the benefit all South Africans that date back at least to the African National Congress (ANC) Freedom Charter of 1955 (Cawood, 2004: 54). The MPRDA represents the culmination of legislative reform in the mineral sector that began with the 1997 Green Paper on Minerals and Mining Policy for South Africa, followed by the 1998 White Paper on Minerals and Mining Policy for South Africa, then the 2000 Draft Minerals Development Bill and finally, the MPRDA in 2002.

Even before these interventions, the post-1994 government had expressed its desire to reform the mining sector in the Reconstruction and Development Programme (RDP) document. This was the first instance in which one of the principal results of the MPRDA—the transfer of private mineral rights to the state—was detailed. This call was echoed in the 1995 Mineral Policy Process Steering Committee (Cawood, 2004: 54).

1997 Green Paper

The Green Paper on Minerals and Mining Policy for South Africa was the first formal document to outline the government's intentions with regard to a future (new) law. It contained three major policy proposals: a long-term objective for mineral rights to be vested in the state; the promotion of minerals development via a "use it or lose it" principle; and that the right to prospect and mine for all minerals be vested in the state (Cawood, 2004: 55). It was published on 3 February 1998, at which time the public was invited to respond. The Department of Minerals and Energy received more than a hundred written submissions from the public, in addition to submissions from interested parties that were held during hearings of the Parliamentary Portfolio Committee on Minerals and Energy (Republic of South Africa, 1997). Many of these core proposals were carried over into the 1998 White Paper, but not without concerns voiced by groups such as the Chamber of Mines over the spectre of "nationalisation without adequate compensation as guaranteed by the constitution" (McKay, 1998).¹³

1998 White Paper

The 1998 White Paper was a more substantial document, whose most significant proposal was exclusive state ownership of mineral rights (Cawood, 2004: 55). Article 1.3.6.2, clause i, makes this clear: “The Right to prospect and to mine for all minerals will vest in the State.” The mechanism and terms by which the transfer of mineral rights from the mix of private and state ownership to the state alone was left to be determined in the Minerals Development Bill (which ultimately became the MPRDA). The White Paper aimed to do three things with regard to mineral rights: ensure security in respect of prospecting and mining operations; prevent hoarding of mineral rights and sterilization of mineral resources; and change the current system of mineral rights ownership with as little disruption to the mining industry as possible. It reflected the Green Paper suggestion of creating a “use it or lose it” system, in order to prevent “sterilization of mineral resources,” as mentioned above (Cawood, 2004: 55-56).

Beyond the core principle of giving mine ownership to the state, the White Paper also introduced questions related to social justice and Black Economic Empowerment (BEE), a post-apartheid affirmative action programme designed to increase the participation of previously disadvantaged persons in the South African economy. This included the promotion of small-scale mining through a special licensing arrangement, access for small-scale miners to government information and technical expertise, and the desire to change ownership patterns in the minerals sector by focusing on BEE (Cawood, 2004:56).

2002 MPRDA

Cawood (2004, 59-61) has a useful summary of the differences between the 1991 Minerals Act and the 2002 MPRDA. The main innovations of the MPRDA were to make significant changes in the duration of prospecting rights, mining rights, and mining permits, with the idea to implement a "use it or lose it" policy (as mentioned above) in order to prevent large companies from holding mining rights without using them for many years. Thus, the important changes between the 1991 Minerals Act and the 2002 MPRDA were: a) to make prospecting rights last for a maximum of five years, and only renewable once for a further period of three years; b) to make mining rights' duration a maximum of thirty years,

renewable until the end of the economic life of the mine; and c) to create a separate category of mining permits (i.e. for properties smaller than 1.5 hectares), that are granted for a maximum of two years, renewable only three times for one year at a time, as opposed to the previous system in which they were easily renewable for two years at a time. The significance of the "use it or lose it" clause cannot be understated: it has created the conditions for an acceleration of mining to the detriment of environmental and social considerations by compelling companies to start mining without having yet received environmental permits in order not to lose their title (for example in 2010, 125 mines were operating illegally without water use licenses, by 2014 this had decreased to 103). This is therefore the most significant aspect of the MPRDA for the purposes of our article. Indeed, even in the proposed Amendment to the MPRDA, the "use it or lose it" provisions will remain intact.

Free Entry Principles

For the purposes of our argument, one of the other salient aspects of land use policy with regard to minerals in South Africa concerns the priority with which mineral rights take precedence over other kinds of land use. In this sense, South Africa's system somewhat resembles the "free-entry" system in places like Canada. There, free-entry principles have caused numerous problems for mining regulation (Canel et al., 2010; Laforce, 2010). Although not generally referred to as a "free-entry" system, South Africa's MPRDA clearly gives precedence to other mining rights and titles in determining whether a new permit may be issued. For example, MPRDA 16:2(b) states, "The Regional Manager must accept an application for a prospecting right if no other person holds a prospecting right, mining right, mining permit or retention permit for the same mineral and land." The same is true for the application for a mining right under sub-section 22:2(b) of the MPRDA. What becomes clear here is the current system in South Africa creates a hierarchy of land-use values, with mining at the top, and little regard in practice for the social and environmental consequences of this land use hierarchy.

Level of mining activity

The resulting changes in legislation governing South Africa's mining sector have thus had numerous consequences not

only for the distribution of mining titles, but also on the communities affected by mining and their environments.

In this section, we examine the fluctuations in the number of mining titles accorded by the Department of Mineral Resources and the footprint of mining. Neither of the data set gives a fully accurate picture of actual mining activities, because they merely indicate the possession of mining rights or titles without necessarily indicating actual activity. Such data are extremely difficult to obtain. However, these data do suggest that mining activity has largely increased since the adoption of the MPRDA.



Figure 1: Number of mining establishments in South Africa (Source: Statistics South Africa, 1996 and DMR, 2004, 2005, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014). Note: The DMR terminology changed in its reports. Earlier reports described “number of mining establishments,” while later reports speak of “number of operating mines.”

It is evident from Figure 1 that the number of operating mines has increased since 2004, initially at a high rate, but slowing to a lower rate of increase from 2009. Coal mining followed the general trend of mining activities in South Africa during the early 1990s, which saw a steep drop lasting until at least 1995. Secondly, and more importantly for the purposes of this article, the number of operating coal mines has steadily increased since 2004, the year of the MPRDA’s adoption (Figure 2).

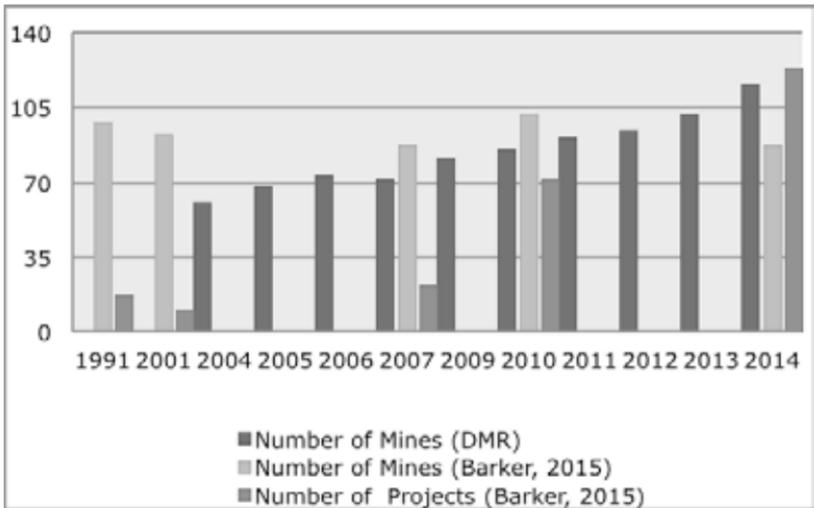
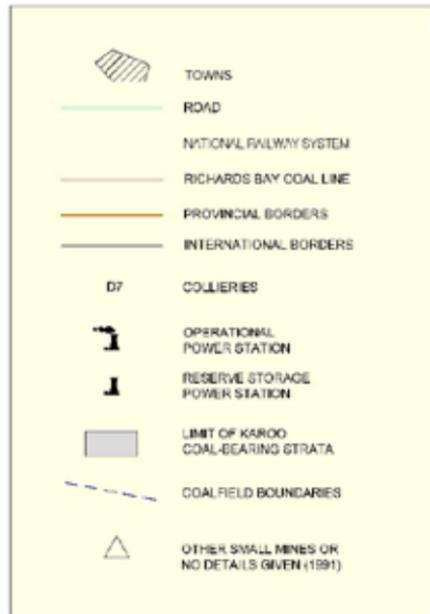


Figure 2: Coal Mining in Mpumalanga (Source: DMR, 2004, 2005, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014 and Barker, 2015)

The increasing number of operating coal mines and the proliferation of applications for prospecting rights in Mpumalanga (McCarthy, 2011:5) have translated into a growing physical footprint of mining, with up to 61 per cent of the provincial land area being subject to mining and prospecting rights and rights applications (Davies, 2014). This increase is evident when comparing areas under license between 1991 (Figure 3), 2001 (Figure 4), and 2014 (Figure 5). This was driven in part by the increased demand for coal, particularly from Asia. While increased demand obviously increases interest in mining, it is the system of licensing that translates these demands into mining activity.

Legend for all the maps that follow:



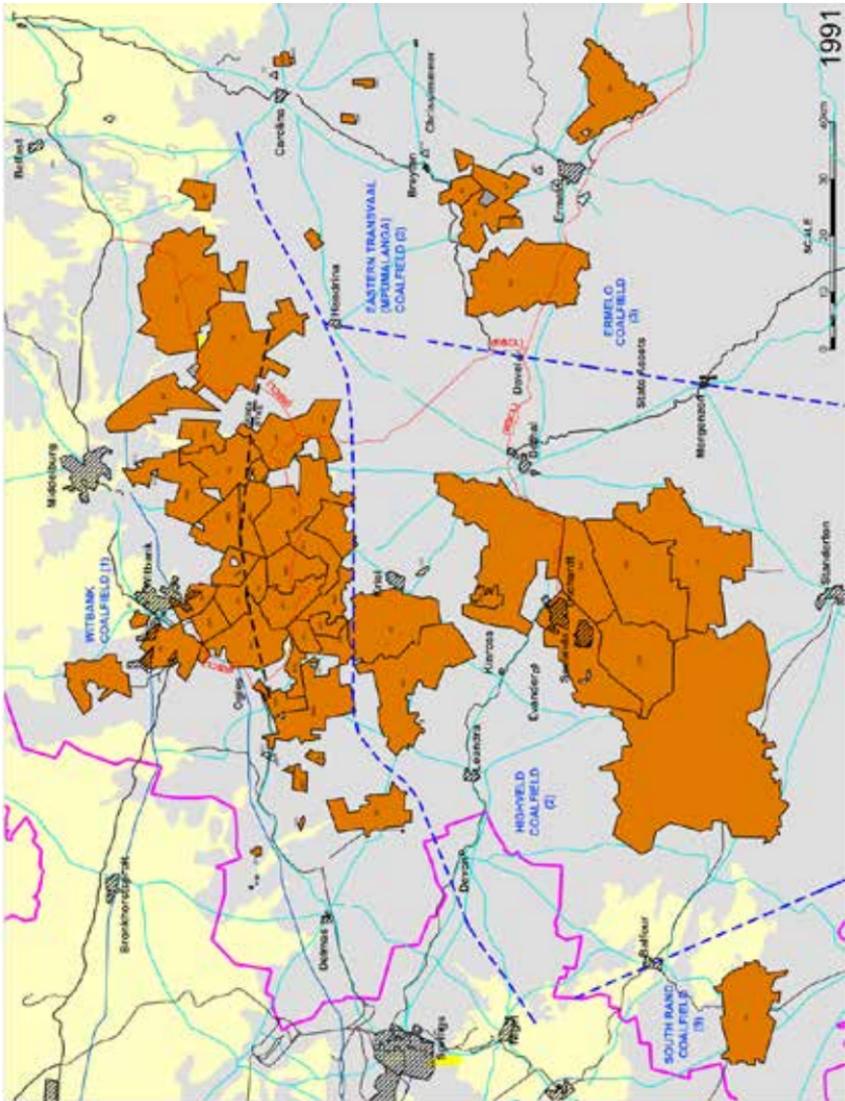


Figure 3. Coal mining footprint -1991 (Source: Barker, 1991)

During this period we also see a change in the size of the mining rights and an increasing number of companies involved in coal mining, as illustrated in Figure 6 and Figure 7. In 2001 there were 22 companies operating mines in Mpumalanga. This increased to 34 in 2014 (Barker, 2015). Of particular concern is the smaller sizes of the rights granted, being too small to be financially viable in the long term. Smaller mines have fewer reserves than the larger

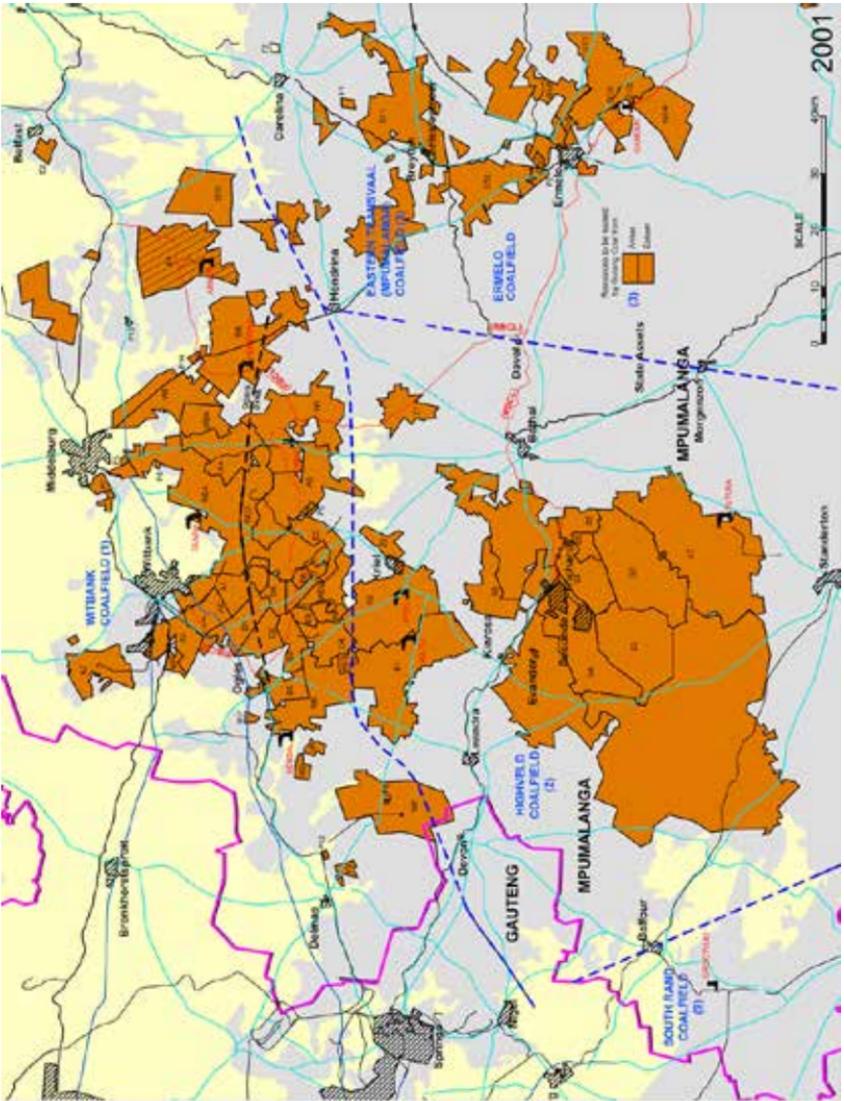


Figure 4. Coal mining footprint – 2001 (Source: Barker, 2001)

mines, lower production, a shorter mine life and they close down sooner, adding to the increasing number of defunct mines (personal communication. Xavier Prevost, Senior Coal Analyst, XMP Consulting, 22 January 2015).

Similarly, as illustrated in Figure 8, there has been an increase in the number of platinum mines and projects. This was in part driven by the increased price of platinum. Land covered by

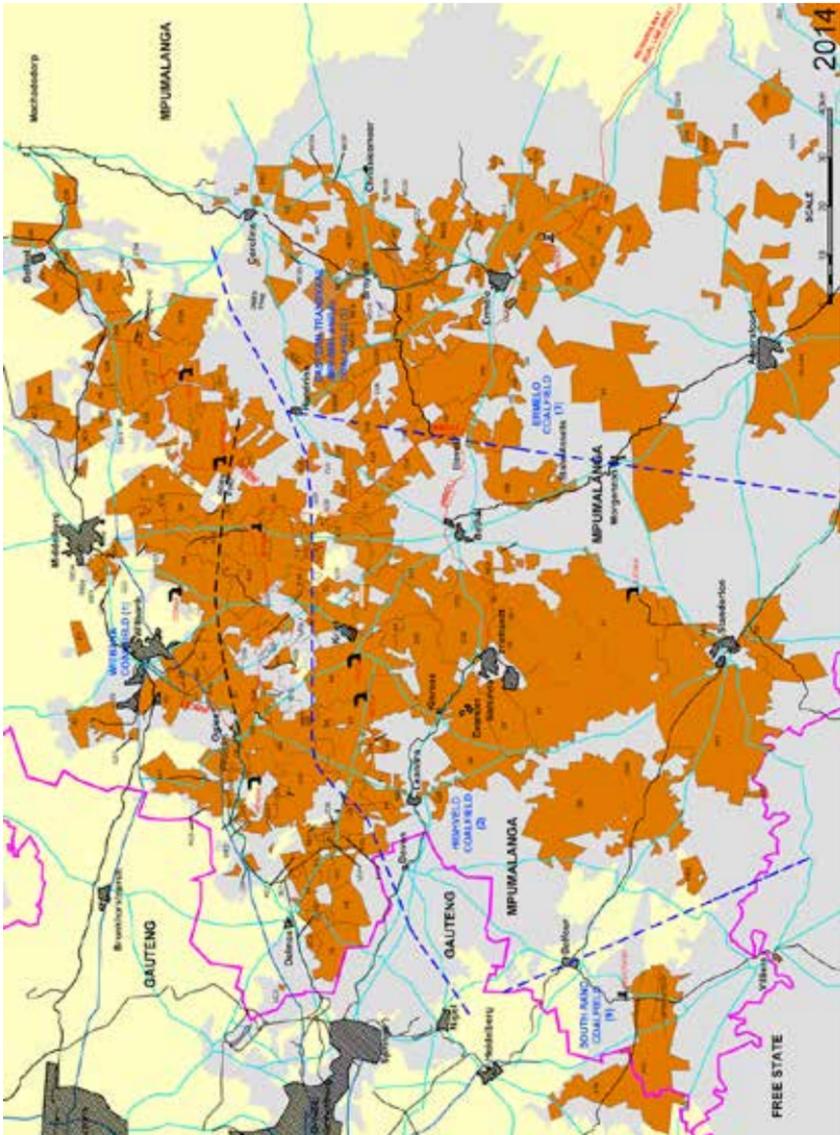


Figure 5. Coal mining footprint – 2014 (Source: Barker, 2014)

mining in the North West province more than doubled between 1994 and 2006, the majority of this occurring in the east of the province (NWDACER, 2009: 17), including an increase in tailing dams, mine dumps and return water ponds, and a decrease in vegetation cover. Related to this is the expansion of the built-up area due to the development of transport networks and formal and informal

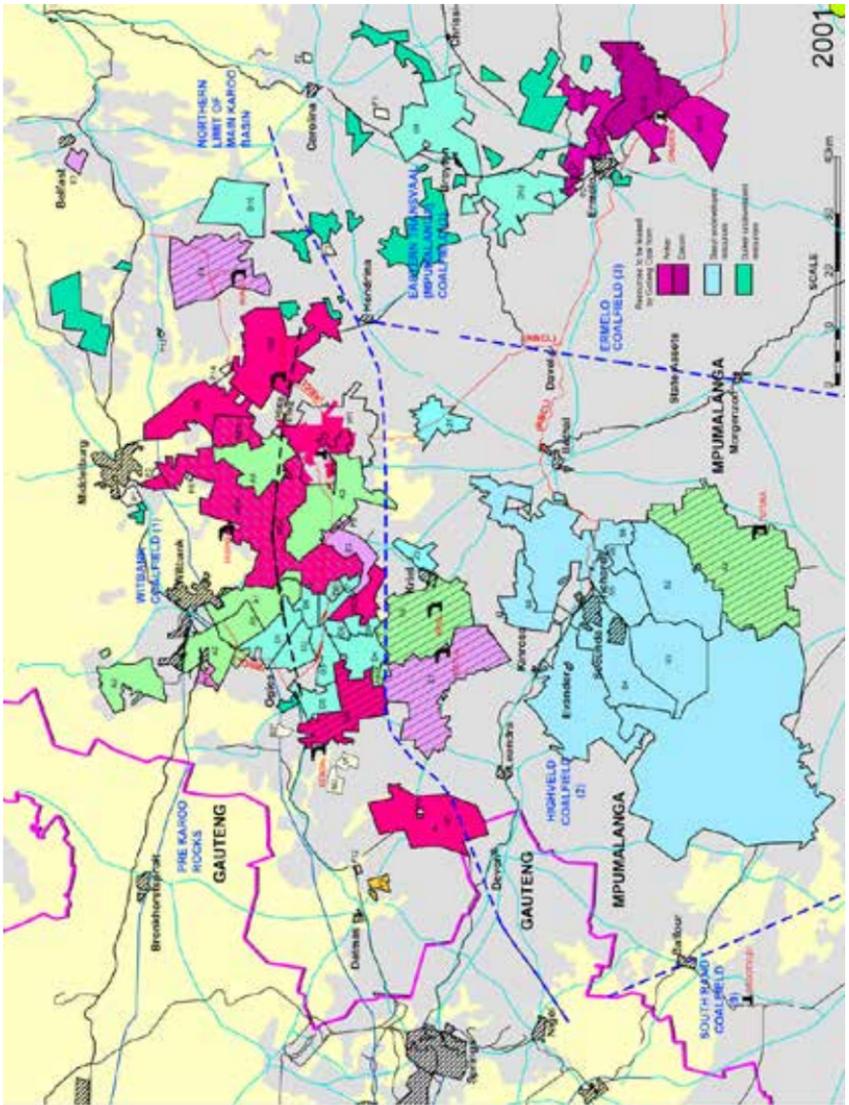


Figure 6. Coal mining ownership – 2001 (Source: Barker, 2001)

settlements (Ololade et al, 2008:3). The urban footprint almost tripled over the same time period (NWDACER, 2009: 17).

Environmental and social impacts of mining

Large-scale natural resource extraction projects profoundly transform environments, communities, and economies, and often generate social conflict. In the case of mineral extraction, the vast majority of these conflicts occur during the operational phase of

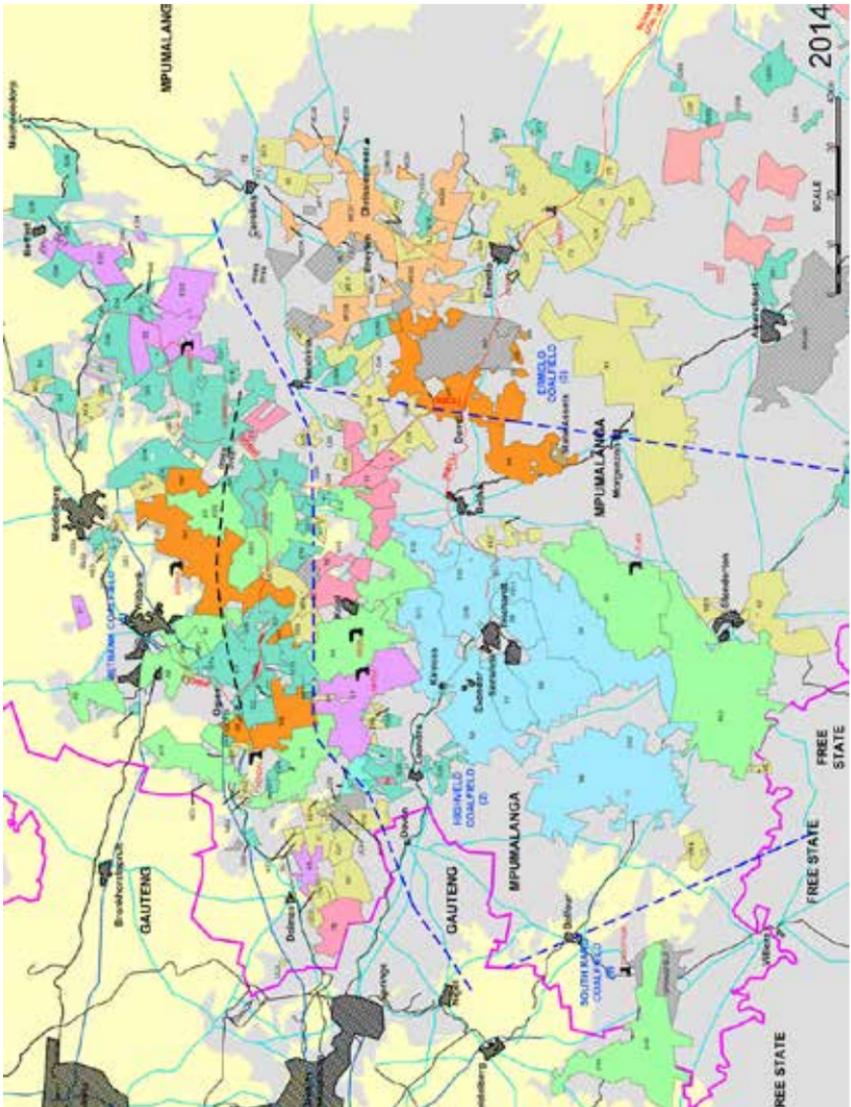


Figure 7. Coal mining ownership – 2014 (Source: Barker, 2014)

mining, with environmental issues being central to disputes with communities (Franks et al, 2014: 2).

These relate to the pollution of, competition over, and access to natural resources. The most common underlying issues, those that affect the nature of the relationship, are social and economic in character. They relate specifically to the distribution of benefits, differences in culture and custom between corporate and community actors, and the absence or quality of on-going

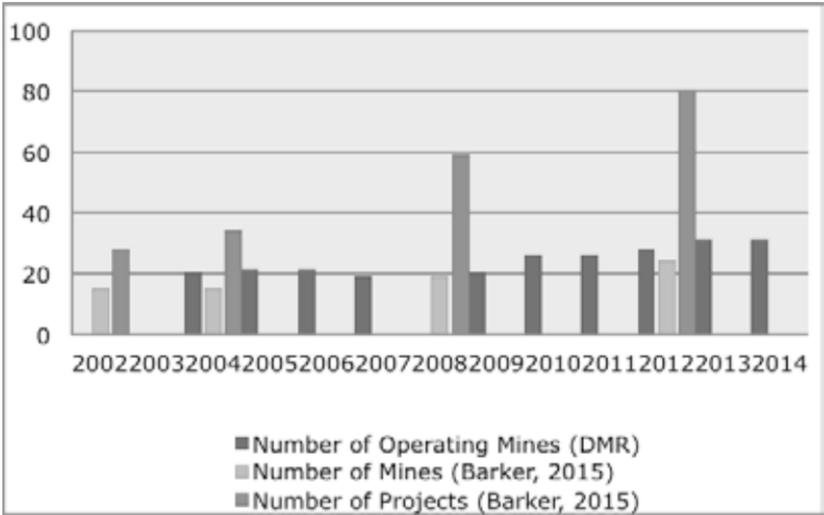


Figure 8. Platinum Mining in North West Province (Source: DMR, 2004, 2005, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014 and Barker, 2015)

processes for consultation and communication (Franks et al, 2014: 4). Similar issues are highlighted in the 2002 report *Breaking New Ground*, a project commissioned by the International Institute for the Environment and Development (IIED) on mining, minerals, and sustainable development. Local communities in particular encounter significant challenges as mines inevitably bring social, economic, and environmental change to nearby areas. National rights to wealth and other benefits derived from mining are therefore in tension with the rights of local communities which, it could be justifiably argued, deserve a larger share of compensation through the benefits described above. They carry a disproportionate share of the costs and risks, including fundamental change to their traditions and sources of livelihoods (IIED, 2002). In mining areas, social conflicts arise from flawed or superficial consultation and engagement processes, inadequate information and understanding of the impacts of mining, loss of control of development choices, unfulfilled expectations of the economic benefits of mining, inequitable benefit flows, and economic hardship when mines close.

A survey of recent newspaper articles adds credence to the idea that conflict surrounding mining activities in South Africa has been growing in recent years: “Limpopo farmers are feeling powerless as the minerals department greedily consumes agricultural land and with it, the water supply” (Mail & Guardian, 13 Mar 2015b);

“No mining in our backyard, villagers say” (Mail & Guardian, 05 Dec 2014); “Mine lays claim to Mpumalanga water catchment area” (Mail & Guardian, 30 Jan 2015a). While such anecdotal evidence needs to be confirmed by further empirical research, these articles suggest the increase in mining footprint following the adoption of MPRDA has nevertheless created new conditions for social unrest and environmental conflict, as elaborated in the following section.

Environmental impacts

The implications of the increasing rate and footprint of mining are significant from an environmental perspective. The main concerns are around land, land use and water. Where land is being mined, it excludes and limits other land uses. Even if the mining activity does not cover or destroy the entire parcel of land for which a company has been granted a license, it has an impact on the surface of that and adjacent land through the generation of dust, polluted water runoff, drawdown of groundwater and subsidence. The exact extent and scale of the environmental impacts of mining are dependent on local geological conditions, the depth of mining and the mining method (surface or underground). Those most likely to bear the brunt of environmental changes are the rural poor.

Land and land use

With 61 per cent of the surface of Mpumalanga under mining or prospecting, the amount of land available for agricultural production is reduced. This is especially relevant as the bulk of South Africa’s high potential agricultural land is in the Mpumalanga Highveld. A report by the Bureau for Food and Agricultural Policy (Van der Burgh et al, 2012.:5) concluded that at the current rate of coal mining in Mpumalanga, 12 per cent of South Africa’s total high potential arable land (an area of over 300,000 hectares) will be transformed, while a further 13.6 per cent is under prospecting. Rehabilitation of mines at closure seldom, if ever, restores the agricultural potential of soil (Limpitlaw et al., 4-5). Based on current and near future mining activities, Van de Burgh and co-authors predict a loss of maize production of 284,844 tons per annum, with a further loss of 162,736 tons if prospecting areas are transformed (Van der Burgh et al, 2012-5). This would influence the availability and price of a South African staple food. Underground coal fires, collapsing ground and acidification are additional concerns

that create dangerous ground conditions and make the surface unstable, rendering the land unsuitable for other uses (McCarthy and Pretorius, 2009:58). In the communal areas of the North West, the increasing mining footprint has decreased the amount of, and increased competition for, productive land available for grazing. This observation again raises the question of the implicit hierarchy of land-use values.

Water

Land transformation has an impact on the provision of ecological services, such as the provision of clean water. Rainfall and evapo-transpiration, and so runoff, across South Africa is unequally distributed—12 per cent of the land area generates 50 per cent of surface water (Colvin et al, 2011: i). The higher rainfall region in the eastern and central Highveld is the major source of water for both the Vaal and Olifants river systems, the former feeding the industrial heartland of South Africa (McCarthy, 2011: 2). This is also the area where the majority of South African coal deposits lie. Grasslands and associated wetlands play a key role in regulating the provision of clean water. During periods of high rainfall, wetlands hold water and release it during drier periods, supplying water to streams and rivers. These areas also act as sinks and buffers against polluted water. Removing vegetation and disturbing the structure disrupt these natural water retention and purification services.

Underground and open cast coal mining, and related activities such as coal washing and transportation in the headwaters of major rivers, have an impact on both the quantity and quality of runoff. This is well documented in the 2011 WWF report *Coal and water futures in South Africa. The case for protecting headwaters in the Enkangala grasslands*. Also documented in this report, and possibly the most serious problem arising from coal mining, is the generation of sulphuric acid (acid mine drainage) as a result of a chemical reaction between pyrite present in the coal and oxygen-bearing water (McCarthy and Pretorius, 2009: 58).

Water quality from these catchments is deteriorating, with dams in the area showing a steady increase in total dissolved solids (TDS) and sulphate concentrations (McCarthy, 2011:5). According to McCarthy and Pretorius (2009:61), mining has resulted in a ten-fold increase in TDS in water bodies in Mpumalanga. A range of other activities in these catchments, including agriculture, coal-

fired power generation, industrial activities and poor waste water treatment, exacerbate this problem (CSIR: 1). It is not only operating mines that influence the environment, acid mine drainage continues to decant from rehabilitated opencast mines (McCarthy,2011: 6).

The contamination of the water supply to the town of Carolina in January 2012 is an example of how these environmental issues, if not adequately managed, have a direct impact on communities. The pH of the dam supplying water to Carolina dropped, almost overnight, to 3.7. This was accompanied by elevated levels of iron, aluminium, manganese and sulphate, rendering the water toxic and unsuitable for use (McCarthy and Humphries, 2013: 1). As a consequence, an estimated 17,000 people from Carolina had to contend with an inconsistent water supply of dubious quality for up to eight months, when municipal water and sanitation services once again started working adequately (Templehoff et al, 2014: 81). The sudden change in water quality is attributed to mining activities—catalysed by an unusually heavy downpour that flushed coal mine seepage that had accumulated in a wetland into the dam. The rain also caused pollution control ponds on surrounding mines to overflow into the catchment.

This is but one of an increasing number cases where water supply has been affected by mining activities. The Bench Marks Foundation (2014) documents such concerns in the Policy Gap 9: South African coal mining report, with other civil society organisations (i.e. Centre for Environmental Rights and GroudUp) also documenting the “devastation” that coal mining is having in the region.

Other environmental concerns relate to air emissions, dust and mining waste. Many of these environmental issues are at the root of the social impacts discussed below. Indeed, it is impossible to speak about the environmental impact of mining’s increased footprint without also speaking of its social impact, and vice versa. We turn to the other side of this equation below.

Social Impacts

Historical context

For historical reasons, the types of conflict triggered locally by the social, cultural, and environmental changes wrought by large scale mining operations and described by Franks et al. (2014:4) and Canel (2010:8-11) were not seen in South Africa until recently.

The dispossession of indigenous South Africans of their land began with the arrival of European settlers at the Cape in 1652 and continued over three centuries. Today more than a century after the start of large scale mining in South Africa, indigenous communities dispossessed and displaced under colonial conquest and rule, find themselves on land which can be mined for its minerals.

When the agricultural sector expanded under colonial rule land law became another instrument for dispossession and Africans were either turned into tenants or forced into wage labour. By the time mining got underway in South Africa, much of the land was already under the control of colonial powers or occupied by Europeans, including the diamond and gold mining regions of the country and most African cultivators had become wage labourers. (Cousins and Walker, 2015: 6-8; Ntsebeza, 2010:2; Mafeje, 2003: 14-16; Bundy, 1988/1979: 1, 44-45, 165-174, 197-200; Lipton, 1985: 17, 85).

Land dispossession and the forcible removal of people, in large numbers and in successive waves, preceded and vastly overshadowed the advancement of mining in the former Transvaal, Natal and the Orange Free State and its impacts on land utility. As the remote areas of the country set aside for the occupation of Africans became established, the migrant labour system came to epitomise the social cost of mining. As Wilson (1972:1-13) writes, mining in the late 1800s signalled a new phase in the country's development and "intensified the push-pull dichotomy" with Africans first pushed off the land into overcrowded reserves, and then recruited to work at low wages as farm- and mineworkers in designated white areas.

In the twentieth century, up to the advent of democracy in 1994, land policy as expressed in the Natives Land Act of 1913 and the Native Trust and Land Act of 1936 continued to be directed towards maintaining white ownership of the land and consolidating marginalised African settlements into tribally based homelands or Bantustans (Ntsebeza, 2010: 2; Beneirt and Delius, 2015: 25-27; Dodson, 2013: 29-30).

Historically, competition between mining and other (white) land users was negligible. In the context of low quality soils, failing rains, droughts, locusts and cattle diseases (Lipton, 1985: 85), white farmers willingly sold their land to mining companies. Yet mining impacts did not entirely escape notice or go unchallenged. White farmers in the gold mining region of the Witwatersrand

started complaining in 1905 to the government about changes in the quality and quantity of their water. These complaints were ignored until 1956, when the government established an inter-departmental committee (IDC) to study the effects of dewatering by the mines. The IDC in turn established a sub-committee to investigate the farmers' concerns. These were set aside in 1960, when the government accepted the final report of the IDC sub-committee known as the Jordaan Commission. The Commission concluded that the dewatering of the dolomites was necessary because the economic benefits of gold mining would far outweigh the consequences of dewatering (Alder et al, 2007: 33-34). Here we see one of many instances of the overlap between environmental and social concerns resulting from South African mining activities.

Overall, while individual farming operations were affected by mining, collectively white farmers benefitted from “gold-fuelled growth” which financed mechanisation subsidies, irrigation projects, training and agricultural extension services (Natrass and Seekings, 2010:13-14). In the period 1911 to 1936, of the £148m raised in taxes from mines, the government spent £112m on subsidies to agriculture (Lipton, 1985: 260). Thus, while the early environmental impact of mining on the Witwatersrand had a general effect, it was also mitigated for some, along racial lines.

While the Land Act of 1913 was never fully enforced, the relationship between white and black people became increasingly that of landowner and poorly paid worker respectively (Beneirt and Delius, 2015: 27, 37). Against this backdrop and the ensuing struggles against apartheid and its aftermath, it is difficult to isolate clashes and injustices caused by mining or within the mining sector from other sources of conflict such as the continued economic marginalisation of black South Africans. Consequently, it is difficult to separate the negative social impacts of the MPRDA from other causes.

Current situation

In recent years, reports of conflicts directly attributed to mining have emerged piecemeal, from newspaper articles, the NGO accounts, court papers, and studies conducted in mining areas. These reports emanate from both mined-out as well as new mining areas, indicating that the concerns of people affected by mining stem from developments prior, and subsequent to, the advent of MPDRA.

For example, communities in the Free State, a mature gold mining region which was opened to mining in the late 1940s, currently face problems associated with mine closure and failures in the post-mining economy. Marais (2013:370-371) examined the experiences of communities and of mining companies to develop a post-mining economy while mines were downscaling and closing. He concluded that developments in the Free State were consistent with international experience, in that neither mining companies nor local communities were well prepared for mine closures; endeavours to develop successful post-mining economies were largely unsuccessful. The local factors affecting the fate of the Free State communities were: the absence of integrated planning exacerbated by poor governance, political infighting, and the absence of trust between mining companies and communities, as well as between mining companies and government. Exclusion of agencies outside of government from development planning and processes, as well as the late start to planning the post-mining economy also contributed to the poor results.

Since the promulgation of the MPDRA, newer mining areas in South Africa have tended to reflect the full complexity of the issues at play when mining collides with established settlements and affects critical ecosystems. Conflicts have variously and simultaneously involved differences over who may lay claim to the economic benefits of mining, who may make decisions on behalf of communities, and whether mining should take place at all. Problems have surfaced associated with the relocation of communities, the contamination and availability of water, and the general deterioration of the physical environment around mines. Mining has also triggered waves of in-migrating mine employees and job seekers, with attendant difficulties and failures in the delivery of basic services and infrastructure. These kinds of social consequences are also part and parcel of South Africa's challenges with urbanisation: yet the conflicts around the provision of services, urbanisation, and mining play out differently in different parts of the country. In some cases, the intercession of traditional authorities creates additional complexities.

In the Rustenburg area of the North West, Manson (2013:411, 417-418,422-423) found that fraught, complex economic and political forces were unleashed as traditional authorities became the intercessors for local communities involved in mining. Households

and communities became divided as ethnic affiliations were revived, and demands were made for houses and jobs on grounds of ethnicity by people living within the area, as well as those with links to the area but had long lived outside it. Furthermore, the roles assumed by traditional authorities in engaging mining companies foster the corporatisation of ethnically defined groups, exacerbating disputes over the control of mining related assets. Public violence and ongoing discontent over the distribution of benefits accrued from mining has become endemic, with most black and rural social groups caught up in the fray.

Rogerson (2012:129-131), who examined the quality of partnerships between mining companies and local governments across South Africa, observed that the social and labour planning provisions of the MPRDA were inadequate. This led to unrealised and unrealistic expectations. He proposed that relationships between mines and local government be institutionalised. Alternatively such relationships could be established between mines and intermediary organisations, which could act on behalf of local governments lacking in capacity to effectively engage mines.

Ololade and Annegarn (2013:568) analysed and compared the views of community members and mining companies on sustainability in the Rustenburg district. They found that the claims of the mining companies' sustainability reports did not tally with the perceptions of residents. They concluded that the concept of sustainability in mining was idealised and that if more realistic concepts were adopted, the mining sector could approach its social responsibilities activities more successfully. Furthermore the combined or cumulative effects of the mining industry were not addressed through the collective interventions of individual mines. The whole industry needed to move away from the notions of "local environmental protection and limited social responsibility".

That many mining companies are small and less able to fund the costs of mining impacts is another important factor contributing to the externalities associated with the sector and the potential for social conflict. The decline of the gold mining industry in South Africa coincided with the advent of democracy and the introduction of the MPDRA. By this time, large-scale mining had already been underway for a century, and larger mining companies were starting to withdraw from well-worked gold and coal fields. Smaller operators with more modest capital requirements were able to take over these

mines (Hermanus and de Jager, 2011: 6-7) and apply for licences to mine smaller areas as provided for in the Act. These companies tend to have fewer resources and are thus unable to address environmental problems or community concerns and interests.

The issues typically faced by communities and gaps in the MPRDA provisions which disadvantage other land users and uses relative to miners were outlined in a submission to the Parliamentary Portfolio Committee on Mineral Resources. It was made by several NGOs, namely the Centre for Environmental Rights, groundWork South Africa, Earthlife Africa, Johannesburg Branch, Environmental Monitoring Group, Vaal Environmental Justice Alliance and the Federation for a Sustainable Environment. They took issue with a number of the bill's provisions, setting out amendments to the MPDRA in 2012. They argued that the MPRDA as it stood, and with the planned amendments, did not adequately provide for consultation or access to information as required by the constitution and that such provisions were vital, since mining was severely disruptive and distressing to the people who are affected by it. Without effective consultation and with limited information, vulnerable rural communities and emerging farmers were unable to challenge mining applications or ensure that the impacts of mining were properly mitigated. Examples of the information that interested the affected communities were denied, as were the social and labour plans (which mining companies were obligated to develop), as well as DMR decisions to grant rights to mining companies on owned and occupied land. These issues had been raised without effect for many years and that mining has become closely associated with social conflict in South Africa.

At the planning level in government, the Mpumalanga province report on its economic and development pathway highlighted the importance of agriculture, mining and tourism to its economy, and acknowledged that mining activities threatened arable land, water resources, food security and tourism (Mpumalanga Government, 2011: 41, 49, 58). These threats were ascribed to inadequate measures to contain water pollution and maintain soil fertility during and after mining, and to preserve the integrity of the province's landscape. According to a report in the City Press (6 October 2012), the province's economic department was at a loss as to how to reconcile the competing needs of the economic sectors. Commenting on coal mining, environmental strategist

Koos Pretorius of The Federation for a Sustainable Environment (FSE), who is based in Mpumalanga, said, “The solution is to mine more selectively and refrain from mining on land suitable for food production” (miningmx, undated). Here again we encounter the important question of the hierarchy of land uses. Clearly, the MPRDA requires amendment in order to acknowledge that the distribution of social and economic benefits of mining must be viewed not purely in monetary terms, but in the building and maintaining of sustainable communities.

Conclusion

David Harvey (2009) recently argued that the crises of capitalism are engendered, in part, by surpluses in capital and labour—in other words, by "accumulation by dispossession" (a term he invented), in which crisis occurs because of over accumulation of capital and labour in particular areas and sectors. He argues that this contemporary mode of capitalist accumulation cannot be divorced from Marx’s idea of primitive accumulation. This includes:

“commodification and privatization of land and the forceful expulsion of peasant populations; conversion of various forms of property rights—common, collective, state, etc.—into exclusive property rights; suppression of rights to the commons; commodification of labour power and the suppression of alternative, indigenous, forms of production and consumption; colonial, neo-colonial and imperial processes of appropriation of assets, including natural resources; monetization of exchange and taxation, particularly of land; slave trade; and usury, the national debt and ultimately the credit system” (Harvey, 2009: 74).

Arrighi et al (2010) have addressed how accumulation by dispossession plays out in Southern Africa. Yet they focus principally on agriculture and the labour question. In this article, we have mainly emphasized land uses, with specific emphasis on mining (although we understand how land and labour are deeply imbricated, as described above with regard to the beginnings of South Africa’s mining industry and, more generally, land use). The history of South Africa’s mining industry from its inception may thus be said to be one of accumulation by dispossession, particularly with regard to the conversion of property rights from collective

or common ones into private ones—which was accompanied by the displacement of labour. Yet with the MPRDA, we see a twist. Here, exclusive property rights are, at least formally, *reconverted* into state property rights, then allocated as private concessions for a fixed period of time. This puts an alternative spin on accumulation by dispossession: rather than the perpetuation of the outright theft of lands that characterised the early period of South African mining (and, even earlier, agriculture), we see a reconfiguration in which the state attempts to simply make private titles more widely accessible to a greater variety of actors. This represents an evolution, in which accumulation by dispossession continues and is transformed through a narrow form of redistribution. We therefore argue that the current hybrid, semi-private, semi-public system of mining title provision, set against the backdrop of an implicit land-use hierarchy that places mining as the priority, is doomed to continue to reproduce conflicts both environmental and social. The question, as Arrighi et al (2010:435) rightly note, is how to reverse the impact of accumulation by dispossession without “major disruptions in the established flow of economic and social life.”

The accounts of environmental degradation and social conflict presented in this paper suggest the MPRDA, with its emphasis on promoting mining, and without sight of the trade-offs typically associated with mining, did not anticipate that opening up the sector could give rise to conflict and endanger other natural resource stocks. It is possible that these conflicts have only recently become clear, as people are displaced, as damage to ecosystems accumulates, as levels of dissatisfaction rise over imbalances in the distribution of impacts and benefits of mining, and as the importance of securing water resources and arable land are appreciated.

Thus, while certain democratic dividends may have been created via the MPRDA, it has come with detrimental costs to public goods that reflect a narrow view of the benefits of mining activities. It is time to re-evaluate and adjust MPRDA in light of these effects. Indeed, there appears to be evidence that, in trying to create a better future for all South Africans, MPRDA has partly contributed to doing the opposite, by putting the mining industry in direct conflict with the same people who are supposed to be reaping the benefits of democracy in the new South Africa. The observations in this article, we believe, open up avenues for further research: more empirical work on mining footprint; fine-grained studies on the

relationship between social and environmental conflict and mining under MPRDA; and a greater attention to questions of inclusion and exclusion, the meanings of democratic citizenship, and mining in contemporary South Africa.

Endnotes

1. May Hermanus, Council for Scientific and Industrial Research, Pretoria and Centre for Sustainability in Mining and Industry, Wits University, Email: mhermanus@csir.co.za; Joshua Walker, Wits Institute for Social and Economic Research (WiSER), Wits University, Email: Joshua.walker@wits.ac.za; Ingrid Watson, Centre for Sustainability in Mining and Industry, Wits University, Email: Ingrid.watson@wits.ac.za; and Oliver Barker, Banzi Geotechnics, Parktown, Email: obb@banzi.co.za

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