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# A thriving coal mining city in crisis? The governance and spatial planning challenges at Witbank, South Africa

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#### ABSTRACT

The city of Witbank in the eMalahleni Local Government, or municipality as it is referred to in South Africa, and its economy are experiencing rapid growth. The growth is largely as a result of coal mining and associated activities such as power generation and the metal industry, which attracts an inflow of migrants to the area. The paper discusses how a flourishing city such as Witbank, with its economy based on non-renewable resources, manages its vulnerabilities. This was researched against a background of eMalahleni being placed under Administration, because the local government failed to deliver basic services. An administrator was appointed to manage and monitor the financial affairs of the local government, by the second sphere of government, known as the Provincial Administration in South Africa. The results show that Witbank prioritised mineral wealth above social, agricultural and environmental concerns. While good governance is generally important for a growing city, Witbank appears to manage with a limited contribution from the local government as the wealthier citizens are able to provide for their immediate needs or move elsewhere. It was suggested that South Africa needs to have a more balanced perspective on the costs and benefits of mining and to develop a long term vision for mining areas, which includes plans for the community once the mineral reserves are depleted.

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#### 1. Introduction

Mining cities have existed around the world for centuries. Mining is often viewed as a panacea for poverty and as a vehicle for economic prosperity, generating wealth, employment, new enterprises and a welcome source of exports, as well as taxable income for governments, but can be both a curse and a blessing (Walker, 2015). Many natural assets and water resources are destroyed (Brown, 1949 cited in Weber, 1962). Hence, mining is inherently destructive, resulting in long-lasting environmental damage, social ills and injustices (London and Kisting, 2016; Oranje, 2013).

Mining is linked to a resource curse that produces rapid economic growth, but is accompanied by social problems. This resource curse is not only evident at national or regional levels, but the scale of cities and towns (Marais et al., 2015). The inability of many resource-rich countries to use the revenues from mining to grow the economy and benefit the poor, can be attributed to the lack of capacity in government to implement realistic and context based policies (Sorensen, 2015), or issues of corruption and weak

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http://dx.doi.org/10.1016/j.landusepol.2016.12.027 0264-8377/© 2017 Elsevier Ltd. All rights reserved. governance institutions (Van der Ploeg, 2011). Truly, "as the city grows more prosperous and rich the administration of its interests affords increased opportunities for corruption" (Weber, 1962:19).

This article explores how Witbank, a mining city with a growing economy based on coal within the eMalahleni Local Municipality that borders on Gauteng, the economic hub of South Africa, has been afflicted with the symptoms of the resource curse and how it has managed its governance and spatial planning challenges and vulnerabilities. These challenges must be understood not only in the context of those facing mining cities internationally, but also in terms of the South African context and its municipal governance framework (discussed later in the article).

Witbank, along with Rustenburg, are presently among the few growing mining cities in South Africa. Many other areas such as the Free State Goldfields (Matjhabeng Municipality) (Binns and Nel, 2001; Marais, 2013a; Marais and Nel, 2016), or those along the West Rand (e.g. Matlosana) (Marais et al., 2015; Marais et al., 2016a,b) and the Natal coalfields (Binns and Nel, 2001; Nel et al., 2003) have faced mine closures and decline.

The next section presents a theoretical framework, which includes a discussion on mining cities under pressure due to the boom and bust experiences and the need to consider the future in planning. A short description of Witbank and the eMalahleni Local Municipality follows. Thereafter the methodological consid-





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erations are briefly outlined. This is followed by a discussion on the infrastructure and governance challenges in Witbank and some conclusions along with proposals for further research, closes the paper.

#### 2. Mining cities under pressure

#### 2.1. Boom and bust

Mining<sup>1</sup> cities often experience volatility – dubbed the resource roller-coaster – with periods of growth and decline (Wilson, 2004; Franks et al., 2013) arising from a number of factors. Changes in demand for the commodity are reflected in commodity prices that influence mining operations and subsequently employment, which in turn affects the size and composition of the population as one of the factors. Changes in the ownership and management of the mines, or amendments to legislation, can also create uncertainty with ripple effects on affected local economies and communities. However, these effects can be moderated where there is diversity, such as mine ownership and policies, and management practices, and even more so in a diversified economy (Randall and Ironside, 1996; Wilson, 2004).

When mining activities are booming, in response to increased demand or the opening of a new mine, housing prices and rents soar (Greive and Haslam McKenzie, 2011; Lawrie et al., 2011; Chapman et al., 2015), becoming unaffordable for many. Thus, the mismatch between supply and demand for housing in some places manifests in makeshift housing, tents, caravans, illegal buildings and subdivisions (Haslam McKenzie, 2013). These social and economic effects are most keenly felt in remote mining towns (Randall and Ironside 1996; Petkova et al., 2009), but mining cities such as Witbank are not immune.

Some studies have identified social disruption as a consequence of mining booms that include alcohol and substance abuse, mental health issues and high crime rates, conflicts between existing residents and newcomers and pressure on the provision of housing and infrastructure (Lawrie et al., 2011; Marais et al., 2015). However, these effects are often limited to the initial phases of rapid expansion, and once stability has been reached, they tend to dissipate (Lawrie et al., 2011). Growth may result in, and have a positive effect on the labour market (Fleming et al., 2015) and higher than average median incomes, yet marked disparities in incomes with high levels of inequality may be present. While growth may increase living standards, the cost of living may be higher than those of surrounding areas (Lawrie et al., 2011). Governance issues have been identified by Van der Ploeg (2011).

Recent international literature on boomtowns appears to focus on Australia, and with the exception of Darwin (Ennis et al., 2014), the attention is mostly on the smaller towns (Lawrie et al., 2011; Petkova et al., 2009; Rolfe et al., 2007). There is growing literature on the effects of mine downscaling (Martinez-Fernandez et al., 2012; He et al., 2017; World Bank and IFC, 2002). However, the social implications are different due to differences in size of the settlement and typical employment arrangements, with South Africa tending towards contract and migrant labour and Australians preferring fly-in-fly-out arrangements (Marais and Cloete, 2013; Marais et al., 2015).

Over and above the unpredictability of the resource rollercoaster, one spectre — that of closure — looms over all mining communities; one which many communities tend to ignore and are thus ill-prepared when it occurs (Marais and Cloete, 2013). Mining cities depend on resources that are non-renewable, and the reality faced by all mining cities is that when the resources become exhausted or the mine becomes uneconomical to operate, it will shut down (He et al., 2017). Mine closure, therefore, has both direct effects and indirect repercussions. Conflict may occur along with other social issues (Martinez-Fernandez et al., 2012). As mines wind down, there might be reduced production, job-losses (leading to reduced quality of life) and a withdrawal of capital (Nel et al., 2003), which, in turn, affects the local economy, land values and house prices (Marais, 2013a).

Consequently, those with the skills to find employment elsewhere move on, leaving the least skilled behind (Martinez-Fernandez et al., 2012). As the economic base shrinks, so does the municipal fiscal base, which affects the ability of the municipality to provide basic services to the community (Marais, 2013a; Marais and Nel, 2016). In addition to the social and economic consequences of mining are environmental impacts, such as loss of high potential agricultural land, pollution and scarring of the landscape (Franks et al., 2013).

#### 2.2. The South African experience

Most of the South African literature tends to focus on the effects of mining on communities and the environment (Oranje, 2013; Emuze and Hauptfleisch, 2014; Sorensen, 2015; Cairncross and Kisting, 2016; London and Kisting, 2016), employment, labour and housing (Demissie, 1998; Cloete and Marais, 2009; Cloete et al., 2009; Cronje, 2014), and mine closure (Binns and Nel, 2001, 2002; Marais et al., 2005; Marais, 2013a, 2013b; Centre for Development Support (CDS), 2006; Marais and Nel, 2016; Harrison and Zack, 2012). There is, however, not much South African literature on mining boomtowns, other than those referring to the Marikana area in Rustenburg.

In South Africa, where the unemployment rate has fluctuated between 24 and 26 percent for many years (Stats SA, 2016b), any region where there is a prospect of employment will attract people hopeful of finding jobs (Van Niekerk et al., 2014). This influx of people may far outweigh the number of jobs available, and when coupled with low household incomes and escalating housing costs, shanty towns and slums spring up, and are a common feature in Africa (Huchzermeyer, 2011). The appalling conditions in such informal settlements breeds discontent (Powell et al., 2015), and may lead to disaster.

The Marikana tragedy where 34 mineworkers were killed by the police in 2012, is regarded by many as a direct result of the poor living conditions experienced by mineworkers (Cronje, 2014; Marais et al., 2015; Cairncross and Kisting, 2016). The Rustenburg/Marikana area falls within the platinum mining belt to the west of Gauteng and has among the largest mines and platinum refineries in the world (Turok and Borel-Saladin, 2013). This region and has also experienced rapid growth over the past decade due to the expansion of mining operations with a population growth rate of 3,5 percent between 2001 and 2011 (Stats SA, 2012). It has since grown at a rate of 14 percent between 2011 and 2016, with a 32 percent increase in the number of households (Stats SA, 2016a) in the period. Consequently, the municipality has been unable to provide housing and basic services infrastructure to its growing population (Marais et al., 2015). According to the 2011 Census data, only 68,7 percent of the households lived in formal houses, and only 35 percent of the households within the municipality had piped water in their homes (Local Government Handbook, 2016: online).

#### 2.3. Planning for the future

In coping with the resource roller-coaster or the threat of decline, mining cities require a careful balance between supplying

<sup>&</sup>lt;sup>1</sup> Mining is defined as defined as "a primary industry that involves the extraction and processing of minerals and other geological materials" (Martinez-Fernandez et al., 2012: 247).

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