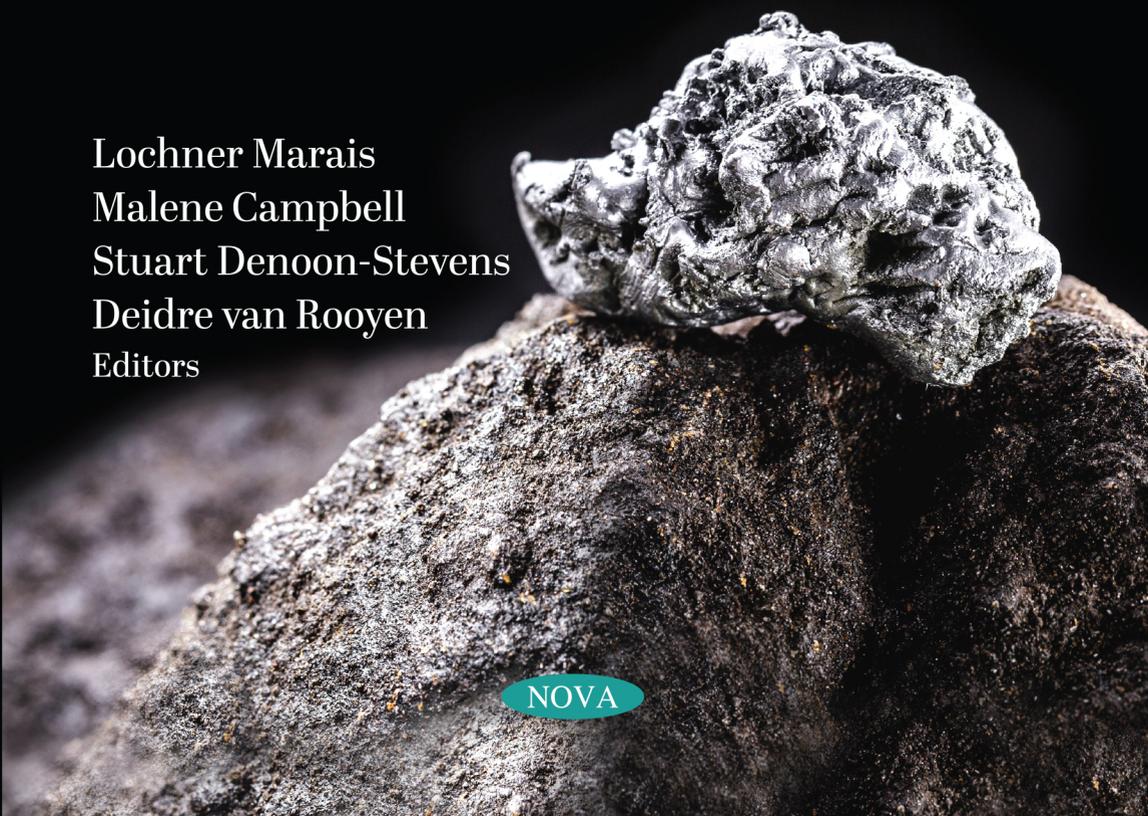


URBAN DEVELOPMENT AND INFRASTRUCTURE

*Mining and
Community in
the South African
Platinum Belt*

A Decade after Marikana

Lochner Marais
Malene Campbell
Stuart Denoon-Stevens
Deidre van Rooyen
Editors



NOVA

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SOUTH AFRICAN PLATINUM BELT
A DECADE AFTER MARIKANA**

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LOCHNER MARAIS

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EDITORS



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CONTENTS

List of Figures	vii
List of Tables	xi
Preface	xiii
Acronyms and Abbreviations	xxi
Chapter 1	Rustenburg:
	The Challenges of a Normalised Mining Town
	<i>Lochner Marais, Malene Campbell,</i>
	<i>Stuart Denoon-Stevens and Deidre van Rooyen</i>
	1
Chapter 2	A Brief History of Platinum Mining
	with a Focus on the Rustenburg Region
	<i>Mark Oranje, Verna Nel,</i>
	<i>Elsona van Huyssteen and Johan Maritz</i>
	11
Chapter 3	Livelihoods, the Body, and the Space
	of Phokeng, Rustenburg
	<i>Ngaka Mosiane</i>
	39
Chapter 4	Planning for a Post-Mining Future in the
	Rustenburg Region and the Transition Towards It
	<i>Johan Maritz, Mark Oranje,</i>
	<i>Elsona van Huyssteen and Verna Nel</i>
	69

Chapter 5	Wages and Welfare in Rustenburg <i>Jean-Pierre Geldenhuys, Antonie Pool and Philippe Burger</i>	93
Chapter 6	Perceptions on the Impact of Extractive Industries on Local Government: The Case of Rustenburg <i>Malene Campbell</i>	119
Chapter 7	Mine Housing, Assets and Informality in Rustenburg: Implications of Mine Closure <i>Lochner Marais, John Ntema, Jan Cloete and Molefi Lenka</i>	141
Chapter 8	Municipal Finances in Rustenburg <i>Chris Hendriks</i>	159
Chapter 9	Conflicting Perceptions of Sustainability in Mining: Influencing Factors in the Rustenburg Region <i>Olusola Oluwayemisi Ololade, Beatrice Omonike Otunola and Israel Ropo Orimoloye</i>	179
Chapter 10	Socio-Economic Opportunities in This Mining Town: Do Women Benefit? <i>Anmar Pretorius and Derick Blaauw</i>	207
Chapter 11	Sustainability Reporting: A Case Study of Impression Management in Rustenburg <i>Cornelie Crous</i>	231
Chapter 12	Digging Differently, and Society is Shaken <i>Phia van der Watt</i>	259
Chapter 13	Quo Vadis, Rustenburg? <i>Stuart Paul Denoon-Stevens</i>	285
Editors' Contact Information		301
Index		303

LIST OF FIGURES

Figure 1.1.	Mining GVA and Rustenburg GDP, 1996-2019 (× R1 000 and 2010 constant prices)	7
Figure 2.1.	South Africa's Platinum Belt and its three limbs	16
Figure 3.1.	The western limb of the platinum mining belt	41
Figure 3.2.	Three sections of Phokeng village	43
Figure 3.3.	Phokeng village, showing its sections in relation to the city of Rustenburg	44
Figure 3.4.	Nathi's base for livelihood formation on Bafokeng land (left); an expression of part of her aspirations in Freedom Park (right)	57
Figure 3.5.	Freedom Park as a hodgepodge of urban and rural spaces, subjectivities, and livelihoods	57
Figure 3.6.	The negative social and environmental effects of the mining-dominated local economy	58
Figure 3.7.	Lemenong section of Phokeng, without soul	59
Figure 3.8.	Town centre (left) and townships for peripheral villages (right)	61
Figure 3.9.	The urban core in Phokeng	61

Figure 3.10.	Lebone II – College of the Royal Bafokeng	62
Figure 3.11.	Royal Marang Sports Campus (left) and the Royal Bafokeng Sports Palace (right)	63
Figure 5.1.	Mean gross and net monthly earnings, weekly hours worked, as well as gross and net hourly earnings of different types of Rustenburg workers	104
Figure 5.2.	Union membership, employment benefits and job characteristics of different types of Rustenburg workers	110
Figure 5.3.	Household asset ownership/access of different types of Rustenburg households	108
Figure 5.4.	Means of household per capita income, per capita spending, and asset indices for different types of Rustenburg households	109
Figure 5.5.	Foster–Greer–Thorbecke (FGT) poverty indices for income and spending, for different types of Rustenburg households	111
Figure 5.6.	Mean rung of South African income distribution ladder on which different Rustenburg household types believe their income (current and past) lies and different Rustenburg household types’ ranking of their household incomes relative to other households in their area	117
Figure 8.1.	Population growth, 1996–2019	166
Figure 8.2.	Share of municipal income per source, 2019	168
Figure 8.3.	Contribution of own sources of revenue, 2019	169
Figure 8.4.	Expenditure per item, 2019	170
Figure 8.5.	Revenue versus expenditure, 2014–2019 (rand)	170
Figure 8.6.	Spending on repairs and maintenance (percentage)	171

Figure 9.1. Interlinkages of the three pillars of sustainability ideal for the mining sector	181
Figure 11.1. Six-step household income ladder	240

LIST OF TABLES

Table 3.1.	The 2013/14 Graduated water tariff structure of the Rustenburg Local Municipality	50
Table 3.2.	Portfolio of livelihood assets per household	52
Table 5.1.	Labour market indicators for working-age (15–64-year-old) adults, Rustenburg	103
Table 7.1.	Rustenburg’s housing profile, 1996–2018	148
Table 7.2.	Rustenburg’s housing profile based on our household survey, 2018	149
Table 7.3.	Migration patterns in Rustenburg	152
Table 7.4.	Assets and wealth ranking of households in Rustenburg	153
Table 8.1.	Financial distress of Rustenburg	172
Table 9.1.	Implications of mining in the Rustenburg region	189
Table 9.2.	Sustainability strategies and activities of some mining industries in Rustenburg	190
Table 10.1.	Demographic information of the male-headed household and his female partner	216

Table 10.2.	Labour market status of the male-headed household and his female partner	217
Table 10.3.	Perceptions in terms of quality of life	218
Table 10.4.	Demographic information of female-headed households and female partners of male-headed households	219
Table 10.5.	Demographic information of female-headed and male-headed households	220
Table 10.6.	Responses of female-headed households and female partners of male-headed households to qualitative statements	222
Table 11.1.	GRI 413 Disclosure related to local communities	238
Table 11.2.	Financial position of youth in Rustenburg	241
Table 11.3.	Quality of schools in Rustenburg	242
Table 11.4.	Quality of hospitals in Rustenburg	243
Table 11.5.	Company financial characteristics 2017 and 2018	244

PREFACE

In August 2012, the South African police shot 34 mineworkers at Marikana outside Rustenburg. The mineworkers had been involved in a dispute with Lonmin about their wages, work environment and living conditions. It took this tragedy to focus the world's attention on the intersection between the mines and the community in the South African platinum belt. It is now nearly a decade since the Marikana massacre. This book takes stock of the changes since then.

South Africa provides a concrete case for investigating global debates on mining and cities and the conflict that often arises in these cities. Though not now as big as it was in its heyday, South Africa's mining sector nevertheless contributes 7% of GDP and provides 400,000 jobs (Chamber of Mines, 2017) to a country with an unemployment rate of 29.1% in 2019. South Africa provides about 80% of the world's platinum, a large percentage of which is used in catalytic converters to reduce CO₂ emission by petrol-driven vehicles.

The future of platinum mining in Rustenburg is under threat because of the rise of electric cars and the cost of underground mining in the area. Many of the new platinum mines to the north of Rustenburg are open cast mines where production is mechanised and cheaper. Other influences on Rustenburg are the increased global nature and neoliberal thinking in the mining industry. Labour practices have also changed. With mining

increasingly dependent on shift work and contract work, outsourcing has changed the face of Rustenburg. The mining companies have transferred their historical responsibilities for housing and health to the government and the mineworkers. Relationships between the mines and the community are in flux, with resulting social, environmental and health concerns. Most worryingly, in their engagement with communities the companies seldom consider the consequences of mine decline and closure.

This book investigates the consequences of the shifting social responsibilities, new inequalities and sustainability concerns created by this neoliberal phase and asks what will happen in the likely case of mine decline and closure and whether there have been improvements since Marikana.

OVERVIEW OF CHAPTERS

Each of the book's 13 chapters deals with a specific aspect of mining in Rustenburg.

Chapter 1 – *Rustenburg: the challenges of a normalised mining town* – provides a conceptual background to the challenges of mining towns in South Africa. In addition, we provide a brief overview of the social unrest in instability in the region. Finally, we provide an overview of our approach and methods in compiling this edited collection.

Chapter 2 – *A Brief History of Platinum Mining with a Focus on the Rustenburg Region* – traces the history of Rustenburg and its connection with platinum mining. Using secondary data from academic and media sources, it identifies the origin of many of the region's conflicts and complexities. It describes the relations between the mining companies, their employees and the surrounding communities, and the intricate institutional relations between government tiers in the region. It shows how interregional dependencies and economic value chains strongly influence Rustenburg and suggests how the future could be shaped by role players such as multinational companies and national organs of government.

Chapter 3 – *Livelihoods, the Body, and the Space of Phokeng, Rustenburg* – discusses the ways in which the ordinary people in Rustenburg

are remaking their lives and places, and how the local municipality's spatial and regulatory designs bolster or hinder such efforts. The context is urban growth and economic boom fuelled by platinum mining between 1996 and 2010. These trends, including the outsourcing of work on the mines, put pressure on local jobs and public services, in the process reducing ordinary people's livelihood chances. The chapter draws empirical evidence from Phokeng, a traditional village and the capital of the Royal Bafokeng Nation in Rustenburg, to give content to a scholarship that connects livelihoods research with urban theory ("southern urbanism"). It argues that the spaces of Phokeng, and broadly Rustenburg, shape their development trajectories, the processes which are in turn mediated through ordinary people's liberating bodily senses such as intuition and chance-taking.

Chapter 4 – *Planning for a Post-Mining Future in the Rustenburg Region and the Transition Towards It* – introduces the notion of a possible decline in the platinum industry. Platinum is primarily used for catalytic converters in internal combustion engines. With the move to electric vehicles, the demand for platinum group metals could fall, severely affecting Rustenburg's platinum-dependent economy and fragile society. This chapter considers how the town can prepare for a post-mining future; a process that will require long-range planning to build non-mining-related economic sectors, create labour-absorbing jobs and rehabilitate the environment. Using desktop research and interviews with key informants, the chapter shows that little preparation is being done, partly because of refusal to believe that mining could end and an environment fraught with mistrust. The chapter argues that focused, multi-stakeholder, collaborative planning, based on credible research, is crucial for the future of Rustenburg and the country as a whole.

Chapter 5 – *Wages and Welfare in Rustenburg* – uses data from a household survey to compare levels of labour market and household welfare inequality in Rustenburg. Mineworkers were found to have higher gross and net hourly and monthly earnings than non-mineworkers. They were also more likely to be permanently employed, be union members and to have a pension, medical aid and unemployment insurance deducted from their pay. Furthermore, mine-employed mineworkers had higher earnings, were more

likely to be permanently employed, be union members and to have pension, medical aid and unemployment insurance deducted from their pay, than contractor-employed mineworkers. Mineworker households had higher household income and expenditure than non-mineworker and non-employed households, while they also owned more household assets and had access to more public services. They were also less likely to be poor, and more likely to believe that their household incomes were at least equal to average household incomes. The chapter also shows that, although the gap between mine-employed and contractor-employed mineworkers remains, the remuneration of both groups improved significantly in the years since the 2012 Marikana massacre, when mineworkers protested against low remuneration.

Chapter 6 – *Perceptions of the Impact of Extractive Industries on Local Government: The Case of Rustenburg* – shows that, ironically, an ample supply of natural resources can have a negative effect. Resource-rich countries are not necessarily advantaged, as the “Dutch disease” and “resource curse” theories have shown. Normalisation and the creation of open towns mean that local governments need to provide and maintain public services. Recent literature on the extractive industries’ impact finds a correlation between poorly governed countries with abundant mineral resources and unsustainable spending patterns. Research in this field has been mostly at the national government level; this chapter focuses on local government. A study using documentation and interviews compared service delivery in Rustenburg with two other mining towns in South Africa. Stakeholders in all three towns were dissatisfied. Service delivery in South Africa is now constitutionally the responsibility of local government, not the mines, but many stakeholders still expect the mines to deal with it. The chapter provides perspectives on the Rustenburg municipality’s strengths and weaknesses and the challenges it is facing.

Chapter 7 – *Mine Housing, Assets and Informality in Rustenburg: Implications of Mine Closure* – builds on two themes from previous chapters: mine closure and inequalities. By the early 1990s, mining companies had stopped providing housing. Instead, the mines started paying a “clean wage,” which enabled employees to provide housing for

themselves. This approach had unintended consequences, such as the growth of informal settlements, urban sprawl and poor access to services. The chapter investigates how mining policy and local government responses have created housing and service delivery problems in Rustenburg. It pays particular attention to the reasons for informal settlement development, fragmented planning and service delivery problems as experienced by residents.

Chapter 8 – *Municipal Finances in Rustenburg* – continuing the theme of the reality of Rustenburg as an open town, investigates how mining affects Rustenburg Local Municipality’s financial management. International studies say that mining has considerable economic benefits for a town. However, municipalities in mining towns often cannot cope with mining’s complex issues. Audited financial statements and reports show that mining has a significant influence on Rustenburg’s municipal finances. Mining-induced growth in Rustenburg has increased local revenue but also municipal expenditure. The municipality has had to purchase more bulk water and electricity and finance the infrastructure for new plots of land. Inadequate financial management by the municipality has caused its citizens financial distress and affected service delivery.

Chapter 9 – *Conflicting Perceptions of Sustainability in Mining: Influencing Factors in the Rustenburg Region* – investigates how communities around the mines experience sustainability. Continued conflict between the mining industry and its host communities threatens sustainability in mining. The onus is on the mining industry to operate more sustainably and initiate and implement several sustainability strategies. The chapter looks at why the mines and their host communities in the Rustenburg region differ in their perceptions of sustainability. Thematic analysis of both standard academic and commercial literature and grey literature reveals that the mines have focused on economic benefits more than on social and environmental costs. The critical concern is that mining companies cannot fulfil the obligations stipulated in their reports and on their websites. This leads to conflicts with the communities who are at the receiving end. Sustainability in mining will depend on transparency in the mining sector and open consultation with communities and local government.

Chapter 10 – *Socio-Economic Opportunities in this Mining Town – Do Women Benefit?* – investigates opportunities for women in the mining industry in Rustenburg and focuses on gender inequalities. The mining industry is known as a masculine society. Despite South Africa’s long mining history, the literature on women’s socio-economic status in mining towns is scarce. Using individual and household surveys conducted in Rustenburg, the chapter compares the situations of men and women living in the same household, female household heads, and female partners in male-headed households. With male employment on the mines high and female employment very low, women in Rustenburg are economically dependent on their male partners. More female partners than male say they feel a need to change their lives. Female household heads are worse off than female partners: if they earn a monthly income, it is less; more of them reside with elderly people; they are more exposed to crime; and they also consider their household’s income to be lower than five years ago, despite being on the same level of poverty as their counterparts five years ago.

Chapter 11 – *Sustainability Reporting: A Case Study of Impression Management in Rustenburg* – investigates the quality of mining companies’ reporting. Local communities in Rustenburg do not see eye to eye with mining companies about the companies’ impact on them. They have experienced only a marginal improvement in their socio-economic status. In contrast, external company reports create the impression that company investment in socio-economic development has brought significant improvement. Comparing community and key informant interviews with the mining companies’ information, the chapter shows that mining companies are using external reporting mainly to create a positive impression of their investment in the local communities, so as to attract and retain investors. The failure to reflect the actual and adverse impacts on local communities in these reports signals the need to reconsider local communities’ right to information and report accurately and usefully.

Chapter 12 – *Dig Differently, and Society is Shaken* – assesses how different policy approaches affect social and spatial patterns near the mining sites. South Africa’s mining industry has experienced numerous policy and business changes since the 1980s. These aim to address racial

discrimination, promote socially responsible mining, and enable the industry to compete globally. The chapter argues that changes in housing, recruitment and labour practices have had mainly undesirable social consequences. It asks whether the government, the unions and the industry failed to anticipate these consequences while negotiating the changes. It explores four possible explanations for pursuing changes despite predictions of adverse effects: ignorance, focus on only one consequence, trade-offs, and hidden agendas. The chapter asks whether the seamless cooperation between government, unions and industry points to an excessive focus on profit and personal gain.

The final chapter – *Quo Vadis, Rustenburg?* – sums up the volume's findings and looks at the implications of potential mine closure for Rustenburg's future. It emphasises the importance of a long-term approach to capturing the social gains from mining by showing the damage the current short-term poorly designed policy response has had in Rustenburg. It also concludes by arguing for the importance of a strong state that is willing to take an adaptive approach to policymaking, as well as acknowledging the hard truths about what is, and is not, possible in mining towns.

ACRONYMS AND ABBREVIATIONS

AMCU	Association of Mineworkers and Construction Union
ANC	African National Council
B-BBEE	Broad-Based Black Economic Empowerment
CE	Contractor-Employed
COVID-19	Coronavirus Disease 2019
CSIR	Council for Scientific and Industrial Research
CSPPro	Census and Survey Processing System
CSR	Corporate Social Responsibility
CV	Curriculum vitae
FGT	Foster–Greer–Thorbecke
FIFA	Federation of International Football Association
G4	Fourth Generation
GCR	Gauteng City Region
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
GVA	Gross Value Added
HIV	Human Immunodeficiency Virus
IDP	Integrated Development Plan
IIAG	Ibrahim Index of African Governance
IIED	International Institute for Environment and Development
IIRC	International Integrated Reporting Council

IR	Integrated Reporting
JSE	Johannesburg Stock Exchange
MCSA	Minerals Council South Africa
MDC	Maputo Development Corridor
ME	Mine-Employed
NGO	Non-Governmental Organisation
NIDS	National Income Dynamic Study
NSDF	National Spatial Development Framework
NUM	National Union of Mineworkers
PCA	Principal Components Analysis
PGMs	Platinum Group Metals
RBN	Royal Bafokeng Nation
RDP	Reconstruction and Development Programme
RLM	Rustenburg Local Municipality
SALGA	South African Local Government Association
SDF	Spatial Development Framework
SEZ	Special Economic Zone
SLPs	Social and Labour Plans
Stats SA	Statistics South Africa
UIF	Unemployment Insurance Fund
USA	United States of America
WPIC	World Platinum Investment Council

Chapter 1

**RUSTENBURG: THE CHALLENGES OF
A NORMALISED MINING TOWN**

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ABSTRACT

Historically, mining companies have created company towns for their workers. However, since the 1980s, there was a shift to creating open towns or the normalisation of company towns. The creation of open towns has also become the South African policy approach. Rustenburg is an example of such an open town with large numbers of platinum mines, often on traditional land. Our book investigates the power relations between these mining companies and local role players in an open town. Although some individual chapters differ, it is constructed around an extensive household survey and several key informant interviews.

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Keywords: company towns, open towns, platinum, Rustenburg, social unrest

INTRODUCTION

The housing and settlement provision for miners has changed rapidly over the past two to three decades. Company towns were typical in the mining landscape up to the 1980s. In this model, the company owned the town and provided the residents, who were all mineworkers, with public services such as water and electricity. This system started to change as companies initiated homeownership programmes and relinquished their historical role in providing housing and managing settlements. The mining industry refers to this as normalisation or the creation of open towns. The term *normalisation* refers explicitly to the process of placing company towns under democratic rule, whereas *creation of open towns* refers to the process of creating a normalised town that no longer depends on the mine but on public management.

Despite this trend, various mining town permutations still exist (Amundson 2004; Littlewood 2014). Worker camps or mining towns are still common (Gough, Yankson and Esson 2018), where the company plays the role of local government in owning land, providing housing and engineering services, and dominating local decision-making. Obeng-Odoom (2018, 447) stated that mining companies “arrogate to themselves statutory municipal power,” while at the same time they “ignore or manipulate various channels of accountability, and privately appropriate socially created rents.” In settlements near mining operations that are open towns, the mining companies do not own urban land or housing and their employees either own or rent housing, living alongside residents who work in other sectors of the economy.

Normalisation or the creation of open towns has been introduced for three reasons. The first was the slump in the mining industry in the 1980s, which made many mining companies reconsider their role in managing these settlements (Marais et al., 2018). Many companies wanted to cut costs on

non-mining activities. The second was the industry's formal announcement, when *Breaking New Ground: Mining, minerals and sustainable development* was released in 2002, that they wanted to reduce their dominant role in mining settlements (International Institute for Environment and Development [IIED] 2002; see also Franks 2015). The third was the need for local accountability, which was central to persuading mining companies to normalise or create open towns (Marais et al., 2018). Some of the pressure for the change originated from unions and governments.

South Africa has also had its share of normalisation and creation of open towns (Van der Watt and Marais 2019). Here the process has been driven primarily by the government, with the unions and mining companies following suit. Although some companies still own houses in Rustenburg, this city, host to approximately 80,000 mineworkers, is an excellent example of an open town. Although platinum mining was on a comparatively small scale in Rustenburg before 1990, it was the boom of the 2000s, coinciding with the trend away from company housing or company settlements, that shaped Rustenburg as the headquarters of the platinum industry in South Africa.

PLATINUM, SOCIAL UNREST, AND CLOSURE

South Africa provides a concrete case for investigating the problems of mining cities globally and the conflict that often arises in these cities. Though not now as big as it was in its heyday, South Africa's mining sector nevertheless contributes 7% of the gross domestic product (GDP) and provides 464,000 jobs (Chamber of Mines 2017). In a country with an unemployment rate of 29.1%, these jobs, mainly low-skilled, are vital. South Africa provides about 80% of the world's platinum (70% from the Rustenburg area), a large percentage of which is used in catalytic converters to reduce CO₂ emission by vehicles with internal combustion engines.

Rustenburg has experienced much social instability over the past decade. In August 2012, the South African police shot 34 mineworkers who were involved in a protest at Marikana outside Rustenburg. The dispute was

with the Lonmin mining company about their wages, work environment and living conditions. It took this tragedy to focus the world's attention on the intersection between the mines and the platinum belt community.

It is now nearly a decade since the Marikana massacre. This book takes stock of the changes since then. The likely closure of mines further compounds the social instability. The future of platinum mining in Rustenburg is under threat for two main reasons: the rise of electric cars and the cost of underground mining. Many of the new platinum mines to the north of Rustenburg are open cast mines where production is mechanised and cheaper. Other influences on Rustenburg are the increased global nature of the mining industry and the power of its capital. Labour practices have also changed. With mining becoming increasingly dependent on shift work and contract work, outsourcing became common in the Rustenburg mines. Since the mining companies have transferred their historical responsibilities for housing and services to the government and the mineworkers, their relationships with the community are in flux, with resulting social, environmental and health problems. These problems are compounded by poor service delivery from municipalities. Despite requirements that social and labour plans (SLPs) and integrated development plans should deal with mine decline, the companies and municipalities seldom consider the consequences of mine decline and closure (Crous et al., 2020).

OUR APPROACH

Many of the chapters in this book refer to the power of the mining companies and how they use it. Researchers often refer to this power as neoliberalism. Although some have queried the coherence and usefulness of the concept of neoliberalism (Dunn 2017), researchers have used it to explain the rolling back of the state and the promotion of free-market capitalism. In the mining sector, researchers often associate it with transnationalisation and the rise of the private company (Bury 2005). Some refer to it as a specific phase in which private capital has become dominant

and they emphasise the adverse effects of neoliberalism in the mining industry.

Others challenge this focus on neoliberalism as a specific phase of development. Polanyi (2001) emphasised the embedded nature of free-market fundamentalism. Cahill (2011, 143) argued that “neoliberalism is best understood as a historically specific process of state and economic restructuring that is socially embedded through three mechanisms: ideological norms, class relations, and institutional rules.” In practice, both firms and states are drivers of neoliberalism. Neoliberalism usually entails regulatory reform by the state, and despite the intention to withdraw the state, this often does not happen. The embeddedness of neoliberalism in society means that one should be careful to view it as an external force. Effectively, governments, unions and societies contribute to neoliberalism. Consequently, we do not use a binary approach in which the state is good and the market bad or vice versa. However, we do accept that there is a difference in power relations between the various institutions in Rustenburg.

PROBLEM STATEMENT AND AIM OF THE BOOK

This book investigates the consequences of the shifting social responsibilities, new inequalities and sustainability concerns created by this neoliberal phase. It asks what will happen in the likely case of mine decline and closure. The Marikana massacre of 2012 showed how fragile the social relationships were in Rustenburg. We take stock of this instability nearly a decade after Marikana and ask whether there have been improvements since then and what the future holds. We attempt to answer three primary questions:

- *What are the current inequalities created by mining and what social risk do they hold for the future?* Marikana occurred four years after the global financial crises, which had adverse effects on platinum demand. In answering this question, we look at inequalities between mineworkers and non-mineworkers and between permanently

employed mineworkers and contract workers. We also consider gender inequalities.

- *What local risks are there if mines close and how do local institutions plan for both boom and bust?* Planning for both boom and bust creates risks and uncertainty, but the likelihood of decline requires urgent attention in planning and policy (Marais and De Lange 2021).
- *What are the unintended consequences of mining?* Over the years, mining policy and practice have changed. The changes have had negative local implications that policymakers often do not foresee. Various chapters in the book investigate the consequences of normalisation and the creation of open towns and the changed housing policies and recruitment practices.

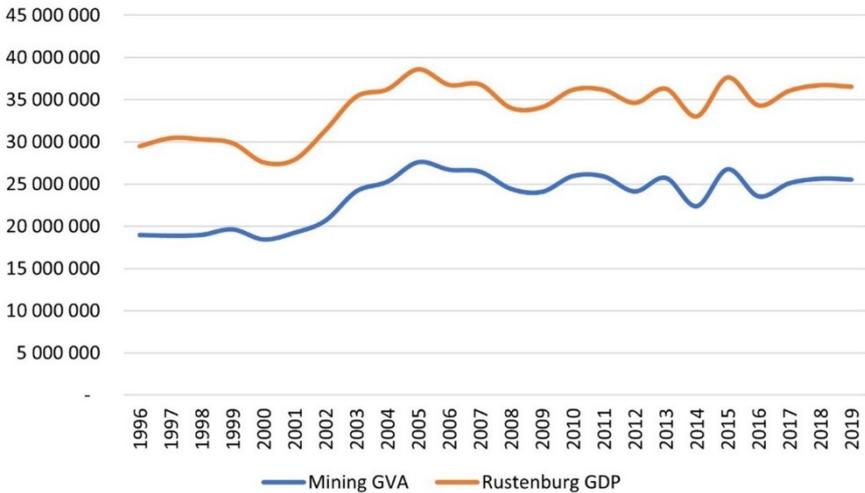
In answering the three questions above we discuss the current inequalities and mining company management approaches to local disruptions and investigate these in the context of possible mine closure. Our approach is to understand the current situation and then ask how mine closure is likely to influence it. Entrenched in the various chapters are the issues of sustainability and the planning responses to both boom and bust.

METHODS

The chapters in this book are based on a case study conducted in 2018 and 2019. Rustenburg, the South African platinum belt headquarters in the North West Province, adjacent to Gauteng, has experienced rapid economic and population growth over the past three decades. As an open town, it provides residence to both mineworkers and non-mineworkers. Between 1996 and 2016, Rustenburg's population grew from 310,000 to 627,000, an increase of 3.1% per annum. Average economic growth was 0.9% per annum between 1996 and 2019, but 2% per annum between 1996 and 2007. Figure 1 shows changes in the annual mining gross value added (GVA) and Rustenburg's GDP. The fluctuating growth and periods of economic decline

are evident. The relationships between mining GVA and Rustenburg's GDP in Figure 1.1 also show how dependent the economy of Rustenburg is on mining. Employment in mining increased from 46,000 in 1996 to 91,000 in 2008 and 96,000 in 2012 (IHS Markit 2020). By 2019, this figure had dropped to 75,000.

The research for the book entailed both qualitative and quantitative methods. At the end of 2018 and the beginning of 2019 we conducted seven interviews with government officials, 14 with civil society representatives, and two with mining company managers. The authors of Chapters 3, 4 and 9 conducted additional interviews as part of a different research process.



Source: IHS Markit (2020).

Figure 1.1. Mining GVA and Rustenburg GDP, 1996-2019 (\times R1,000 and 2010 constant prices).

We conducted a large household survey involving 945 households, consisting of 562 mining households (where at least one household member worked in the mining industry) and 383 non-mining households (where none of the household members worked in the mining industry). These numbers included 208 households in the Bafokeng area, of which 72 were mining households. Respondents could complete the questionnaires in English, Setswana, Xhosa or Zulu. We randomly sampled census enumeration areas

and then used a systematic sampling method to select the households in each enumeration area. The questionnaire elicited household information for the following indicators: household members, household assets, household income and employment and availability of basic services. We used local unemployed people to administer the questionnaires and followed up 25% of these surveys telephonically. We used Census and Survey Processing System (CSPro) on an electronic tablet to collect the responses to the questionnaires.

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Chapter 2

**A BRIEF HISTORY OF PLATINUM
MINING WITH A FOCUS ON THE
RUSTENBURG REGION**

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ABSTRACT

A Brief History of Platinum Mining traces the history of Rustenburg and its connection with platinum mining. Using secondary data from

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academic and media sources, it identifies the origin of many of the region's conflicts and complexities. It describes the relations between the mining companies, their employees and the surrounding communities, and the intricate institutional relations between government tiers in the region. It shows how interregional dependencies and economic value chains strongly influence Rustenburg and suggests how the future could be shaped by role players such as multinational companies and national organs of government.

Keywords: Rustenburg, mining history, platinum

INTRODUCTION

The discovery of diamonds and gold, along with other metals, has played a prominent role in the history of South Africa. Gold mining, along with cheap energy fuelled by South Africa's huge coal deposits, drove the country's industrialisation and played an equally crucial role in the growth of its sizeable services sector (Harrison and Zack 2012). Although the proportional contribution to the economy has declined over the past five decades, government still views the mining industry as a critical sector, as it generates a huge segment of the country's foreign exchange income (i.e., in 2019, it constituted 38% of South Africa's exports in value) and directly employs over 465,000 people (i.e., in 2019, 5% of the total number of formally employed people in the country) (Minerals Council of South Africa [MCSA] 2021; Rogerson 2011; Vegter 2019). The 2030-National Development Plan also suggests that the mining industry, as long as it is viable, should increase exports and income, and provide valuable revenue for the state (South Africa, National Planning Commission 2012).

Besides its contribution to the economy, mining has influenced the spatial structure of the country. Towns and cities have sprung up around mines and people have flocked to them seeking employment and the hope of a better life. The Gauteng City Region was the primate of such areas. Over the past three decades, another region has emerged around the Platinum Group Metals (PGMs), in an area known as the Platinum Belt with its three limbs: Eastern, Northern and Western Limbs (see Figure 2.1).

Rustenburg lies at the economic heart of the Western Limb of the Platinum Belt. Its history parallels the development of many mining towns and regions and thus also exposes the psyche of those with power in relation to those without. While the extractive industries have enriched some, they have also exacted a huge toll from the thousands of people who have been impoverished, disempowered and dispossessed through the imposition of oppressive policies and actions to control mining and mine workers and to maximise profits.

In this chapter, we trace the intertwined history and context of PGMs mining and Rustenburg. We obtained our data through desktop research, drawing on a range of published and unpublished sources, including academic literature, research reports, conference papers and news media.

This chapter not only provides some background for other chapters in this book, and specifically Chapter 4, but identifies the origin of many of the conflicts and complexities in the region. Among these are the relations between the mining companies, their employees and the surrounding communities, and the intricate institutional relationships among the various layers of governance in the region. Our analysis reveals that interregional dependencies and economic value chains strongly influence Rustenburg. Just as much of its history, so could its future be shaped by role players, such as multinational companies and national organs of government, far away from the Rustenburg region.

The chapter follows the historical discovery of PGMs and then the discovery of the Merensky Reef, to the development of mining in the Western Limb of the Platinum Belt. Following a discussion of the issues and events that led up to and occurred after the Marikana massacre, we conclude this chapter with a discussion of the implication of the history and the prospects for the future of PGMs and Rustenburg.

DISCOVERING PLATINUM

It is well-documented that the mineral we call platinum was used for centuries by the ancient Egyptians and the pre-Colombian Native Americans

of present-day Ecuador and Colombia to make jewellery and ornaments (Baxter 2019; Hochreiter et al. 1985; Mining.com Editor 2013; Münze Österreich 2020; Scott 1992). Platinum-related metallurgical mining activity dates back to 700 BC and continued to at least 800 AD, but appears to have been unknown in Europe, North America or Asia until the eighteenth century (Baxter 2019; Scott 1992).

The name *platinum* stems from the era of Spanish conquest and exploitation of South America from the sixteenth century onwards (Haldar 2017; Mining.com Editor 2013). Spanish Conquistadors, while panning for gold in the Pinto River, found tiny beads of a silver-whitish metal intermingled with gold nuggets. They viewed this metal as a worthless impurity in the gold and inferior to silver, denigrating it as *platina* or “little silver” (Haldar 2017; Yanes 2016; Zientek and Loferski 2014).

The British Royal Society was introduced to *platina* by Antonio de Ulloa y Garcia de la Torre-Guiral, who was part of the Spanish–French expedition to measure the precise circumference of the earth around the equator in 1735. During this expedition they discovered a metal that could not (then) be separated from the gold with which it was mixed (Davenport 2013; Haldar 2017). On return to Europe, De Ulloa’s ship was captured by the British; he was imprisoned and his scientific papers confiscated. However, The British Royal Society, recognising the value of his work, invited him to address them and thus *platina* was introduced to Britain. Later he and Don Jorge Juan y Santacilia, another member of the expedition, published an account of their expedition and again described *platina* as “a mining rock of such resistance that it is not easy to break or cut with the forces or blows on a steel anvil” (Yanes 2016).

In 1750, the Royal Society was again introduced to *platina*, this time by a British metallurgical scientist, William Brownrigg, who, along with William Watson and Charles Wood, had investigated it. Platinum was recognised as a separate metal, joining the other known metals. In the first half of the nineteenth century, the other metals in the platinum group – palladium, rhodium, osmium, iridium and ruthenium – were isolated and identified.

LOCATION AND RESERVES

The six metals in the PGMs group occur together in nature, often alongside nickel, copper, silver and gold (World Platinum Investment Council [WPIC] 2019a; Mining.com Editor 2013). Economically viable deposits of the metals are rare; mining is only viable with concentrations of PGMs of between 5 to 15 parts per million (ppm). It takes ten tons of ore to produce one troy ounce (31.1 g) of platinum with the standard purity of 95 (Business Coaching Journal Staff 2019; WPIC 2019a; Zientek et al. 2017).

Countries that are known to have large reserves of PGMs are South Africa, Zimbabwe, Russia, the USA, Canada, Australia and Kazakhstan (Halder 2017). Of the total global reserves of PGMs in 2018, over 90% are in South Africa and these are specifically found in the *Bushveld Igneous Complex* (Cawthorn 2010; Davenport 2013). Other large concentrations occur in the Norilsk-Talnakh area in Russia and the Great Dyke formation in Zimbabwe (Johnson Matthey n.d.-a, n.d.-b; Lapping 2018; Zientek et al. 2017).

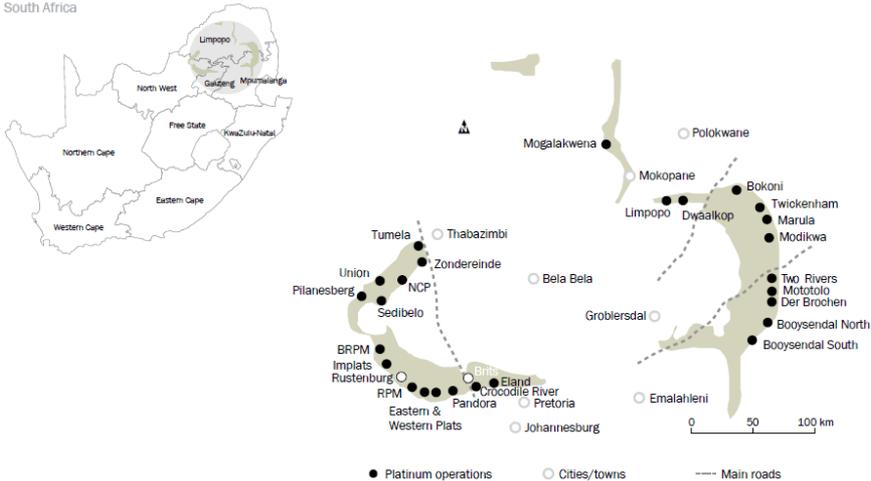
PLATINUM MINING IN RUSTENBURG

The origin of PGMs mining in the Rustenburg area dates back to the mid-1920s, when the geologist Dr Hans Merensky found an exceptionally platinum-rich segment of what would later become known as the Western Limb of the Bushveld Igneous Complex (Figure 2.1) on a farm a few miles to the east of the town of Rustenburg (Baxter 2019; Johnson Matthey 1957). Initially, the metal was primarily used in jewellery production. Following this discovery, a number of small companies embarked on exploitation of the deposit, but due to a sharp decline in the price of platinum towards the end of the decade, some were closed down, or were absorbed by larger companies, which in turn merged in 1932 to form a single company, the Rustenburg Platinum Mines Limited (Hochreiter et al. 1985; Johnson Matthey 1957; Jones 1999; Vreken 2004). This company set up a blast

furnace in the 1930s, with a second smelter that came into operation in 1953 (Davenport 2013). During the Second World War, mining grew rapidly to meet the demand for platinum as a crucial component in the production of ammunition. With the growing demand from the petroleum industry and other users, platinum mining expanded rapidly in the 1950s (Baxter 2019; Dumett 1985; Hochreiter et al. 1985; Johnson Matthey 1957).

In the late 1940s, Rustenburg Platinum Mines Limited began mining operations on the farm Swartklip, about 90 km north of Rustenburg and was the world's largest producer of platinum at the time (Johnson Matthey 1957). From the 1960s to the 1980s, the growing demand for PGMs in the manufacture of jewellery, platinum bars and coins and catalytic converters, saw a steady increase in mining in the Rustenburg area. South Africa became the producer of two thirds of the platinum mined outside the then Soviet Union (Jones 1999; Leiding 1975; Münze Österreich 2020; Provident Metals 2021).

Location of the Bushveld Complex, South Africa



Source: MCSA (2021)

Figure 2.1. South Africa's Platinum Belt and its three limbs.

During the 1990s, a meteoric increase in demand for platinum, driven largely by the demand in the automotive, aerospace and electronics sectors, fuelled a surge in the exploration of PGMs. This led to the opening of new

mines in both the Western and Eastern Limbs of the Bushveld Igneous Complex (Baxter 2019; Capps 2015; Wilburn 2005).

Huge increases in the price of platinum in the early 2000s saw a surge in interest from foreign investors and companies in PGMs mining in South Africa and spurred on the exploration for PGMs (Baxter 2019; Capps 2015; Vreken 2004; Wilburn 2005). This, in turn, also led to a change in the size of companies in the PGMs industry at the time, with several smaller companies emerging in the sector (Baxter 2019). PGMs mining also started moving at scale into the Eastern Limb of the Platinum Belt, with the town of Tubatse (formerly Burgersfort) becoming a new centre of PGMs activity, much like the town of Rustenburg on the Western Limb (see Anglo American 2001). Downstream processing of the PGMs, however, still took place in the Rustenburg area and in Polokwane (formerly Pietersburg) (Anglo American 2001).

By 2003, the supply emanating from the increased exploration in South Africa was coming to market and the enthusiasm for exploration started to wane despite the continuing high price of platinum (Wilburn 2005). At the same time, lower palladium prices tempered the search for new sources of the metal (Wilburn 2005). Towards the end of the decade, the boom in PGMs, together with the rest of the commodity boom at the time, would come to an abrupt end with the Global Financial Crisis in 2007/8, which led to the closure of many of the smaller PGMs operators that had sprung up over the course of the preceding decade (Baxter 2019).

INTERNAL FINANCIAL CRISIS AND MARIKANA MASSACRE

The global financial crisis has also further fuelled tensions in between workers and mining companies and between communities and mining companies, which had always been acrimonious, but had become increasingly strained since the significant expansion in PGMs mining in South Africa in the early 1990s (Bezuidenhout and Buhlungu 2015; Evans 2015; Frankel 2012; Legassick 2012; Stoddard and Lakmidas 2012). Consequently, platinum mining companies started shedding jobs in an effort

to cut costs and stay afloat and a number of mines went into “care and maintenance”, while others were “shuttered” (Shabalala and Brown 2019; Stoddard and Lakmidas 2012). This rapid move from boom to bust in the course of a decade, coupled with the already dreadful living conditions of the majority of workers in the Platinum Belt, and the persistence of historical apartheid inequalities in income, society and space led to a substantial increase in protests and strike actions (Bench Marks Foundation 2017; Bezuidenhout and Buhlungu 2015; Chinguno 2015; Evans 2015; Frankel 2012; Legassick 2012; Ntema 2017; Rees 2012).

The deep anger and strikes, which became increasingly more violent, culminated in the Marikana massacre on 16 August 2012, when the South African Police Service opened fire with R5-automatic assault rifles and live ammunition on striking mine workers from Lonmin’s Marikana Mine, killing 34 workers and wounding at least 78 others (Bench Marks Foundation 2017; Chinguno 2015; Frankel 2012; Legassick 2012; Rees 2012; Tolsi 2013). This, in turn, first led to a further six weeks of illegal strike actions throughout the Platinum Belt, which extended into gold mining operations, during which another 12 people lost their lives. It also led to the formation of the Association of Mineworkers and Construction Union (AMCU), a far more militant voice of workers, supplanting the National Union of Mineworkers, which had fallen out of favour with workers and communities in the area, as the majority union at mines in the Platinum Belt (Capps 2015; Chinguno 2015; De Lange 2012; Frankel 2012; Hlongwane 2013; Legassick 2012; Sacks 2012; Stoddard and Lakmidas 2012).

The horrific Marikana massacre and the damaging strike that followed, saw platinum production in South Africa plummet by 12%, or about 550,000 ounces (Noble Metals, n.d.). Due to South Africa’s primacy in platinum production, the global output dropped by 8% during that year (Capps 2015; Noble Metals n.d.). This drop in output had devastating effects on workers, communities, mining companies and the economies of Rustenburg, as well as other smaller towns and villages in the region. It also led to affected municipalities, notably the Rustenburg Local Municipality, receiving far less income and struggling to provide basic services to their residents (Capps

2015; Frankel 2012; Legassick 2012; Tshwane 2018). The impacts on PGMs mining in South Africa affected other operations, with Amplats' chief executive, Mr Chris Griffith, stating in September 2012: "Our Rustenburg mining operations are under considerable economic pressure and their future is already under review" (Stoddard and Lakmidas 2012).

It furthermore changed the way the world looked at PGMs mining in South Africa. First, it became seen as a tainted, exploitative industry, with the then chief whip of the ANC in parliament, Mr Mathole Motshekga, stating that "the Lonmin tragedy must be seen in the context that the mainstay of the mines was and still is cheap labour, cheap black labour" (Parliamentary Monitoring Group 2012; see also Bezuidenhout and Buhlungu 2015); and second, a volatile PGMs supplier. While government's response to the Marikana crisis included large-scale investment in human settlement development by national sector departments (South Africa, The Presidency 2015), such developments did not necessarily consider local settlement dynamics, nor the financial viability of service delivery, nor the consequences of supporting the development of isolated settlements for highly vulnerable households at mines. Given that 72% of all the world's platinum mines were located in South Africa in 2012, it also hastened the search for alternatives for the PGMs and exploration for PGMs resources elsewhere, such as the United States of America (USA), Australia, Columbia and Russia where PGMs mining had occurred previously, or was still taking place (Colombia Gold 2018; Frankel 2012; Kay 2018a 2018b; Legassick 2012).

RECENT DEVELOPMENTS

In South Africa, these transitions resulted in a number of acquisitions and changes in ownership of mines, mining companies reducing their operations in high-cost production areas and moving into new, mostly opencast mines that offered higher ore yields, that could be operated with more mechanical means, had lower labour costs and were safer and hence less prone to injuries, fatalities and legally-required safety-related stoppages

and new companies entering the industry (Anglo American 2015; Baxter 2019; Capps 2015; Cornish 2019; De Wet 2014; Lonmin Plc 2019; Mtongana 2018).

Three years after the Marikana massacre, the platinum mining industry experienced a further blow, the so-called “Volkswagen-diesel-emissions scandal” or “Dieselgate” (see Gapper 2019; MCSA 2020) when it was discovered that the pollution emitted by diesel cars was considerably higher than what vehicle manufactures had officially certified (Business Coaching Journal Staff 2017; Hume and Sanderson 2019). This was followed by a global turn away from diesel. This unforeseen event further intensified research and development into electrical vehicles and hastened the need for new areas of demand for the PGMs – the most promising among these being the “hydrogen fuel cell” (Creamer 2019a 2019b; Harvey 2018).

As PGMs mines grew deeper, they required specialised hybrid mechanical equipment that could still be operated manually, they increasingly struggled with providing a safe working environment and became ever more expensive to operate, leading to a drop in profitability and further job losses (Mahopo 2018; Seccombe 2018b, 2019a, 2019b, 2019c). This already dire situation got even worse with a continuing upward trend in the price of electricity during this time, which, together with the ever-deeper mines and higher energy needs, dealt a major blow to mining companies (Seccombe 2019c). As PGMs mining companies cut costs and closed shafts, thousands of jobs were lost, followed by doom and gloom and more mine-related strikes and service protests, including in the Rustenburg region (James 2019; Mahopo 2018; Seccombe 2018a; Tshwane 2018).

In April 2018, the rapidly deteriorating situation of the PGMs sector, was captured in a hard-hitting review of the sector by JP Morgan Cazenove (cited by Ryan 2018), which compared the South African platinum mining sector to a “dysfunctional oligopoly – five South African companies control more than 65% of global primary mine supply and more than 80% of SA supply”. The JP Morgan Report further lamented that “the outlook for the platinum price in 2018–19 is bleak. South Africa accounts for 70% of global mine supply and, at current prices, we estimated about 60% ... of SA mines are cash negative” (cited by Ryan 2018). Lapping (2018:10) suggested that

the reason why there has not been a greater exodus of investors from this sector is that “the barriers to exit are high and people are unwilling to abandon hope, so supply leaves the industry very slowly despite years of subpar returns.”

Over the past couple of years, mining companies in the PGMs sector have intensified their exploration for deposits that have better ore concentrations, and can be operated at lower depths, sought new cost-saving, more effective, hybrid mining techniques, including mining in more mechanised, less labour-intensive ways (Anglo American 2015; Cornish 2019; Global Africa Network 2018; Shabalala and Brown 2019; Souza 2017). The search also began for ores that included more than just PGMs, such as gold, nickel and copper, which could offset the impact of low platinum prices and provide PGMs mining companies with a far more diverse range of metals to take to market (Friedland 2019). At the same time, Implats began selling off its older PGMs assets in the Western and Eastern Limbs of the Platinum Belt, to focus its energies on its flagship Mogalakwena mine in the Northern Limb of the Belt (Anglo American 2015; Anglo American Platinum 2014; Cornish 2019; Friedland 2019; Shabalala and Brown 2019). Other PGMs mining companies are also increasingly expressing a wish to move to this (Northern) Limb, including Implats, which has a long-term greenfields project in mind in this area (Cornish 2019; Friedland 2019; Mtongana 2018).

Midway through 2018, there was a huge surge in the price of palladium and rhodium – that have primarily been used to perform the catalytic conversion function in petrol – “as the automotive industry ready [sic] itself for the tighter controls and risk of penalties associated with further real driving emission regulations” (Gapper 2019; see also Njini 2019a). This pushed the price of palladium in March 2019 to above \$1 600/oz, nearly triple the price it was selling at early in 2016, six times more than its price a decade ago, and above that of platinum and gold; and the price of rhodium to more than \$3 000 per ounce, offering South African PGMs miners a very welcome respite (Gapper 2019; Lonmin Plc 2019; Macrotrends 2019; Njini 2019a; Rowling and Pakiam 2019). While such random rescues may provide some temporary relief, they are problematic from an inflationary

perspective, as inevitably a weak exchange rate leads to price hikes and an increase in costs, which has been one of the major challenges for PGMs mining companies over the last decade (MCSA 2020; Vreken 2004). The impact of the structural difficulties PGMs miners were facing, especially those that primarily produced platinum, was evident in Implats' indication that notwithstanding these silver linings, it would still shed 13 000 jobs at its Rustenburg operations, as first announced in mid-2018, where Lonmin was in the process of cutting 12,600 jobs (Njini 2019b; Seccombe 2018a).

Midway through 2019, despite large segments of the PGMs sector going through a turbulent period, the PGMs sector was still the largest employer in the mining sector in the country, directly employing around 168 000 people, and paying employees around R48 billion in earnings; produced around 270 tonnes of PGMs, amounting to R105 billion in sales and leading to around R96 billion in revenue; exported PGMs to the value of R94 billion, making it the biggest exporter of minerals in the country; and contributed R900 million in royalties to the national fiscus (Baxter 2019).

Reflecting on the *size of company and scale of operations*, the PGMs sector in South Africa was dominated by large corporations from the 1950s to the 2000s,¹ which in many cases did not disappear, but only really changed in terms of ownership and name, and by the late 1990s culminated in there being *four big integrated PGMs producers*, namely:

- *Amplats* (Anglo American Platinum Corporation Ltd, formerly Rustenburg Platinum Holdings Ltd, and prior to that Rustenburg Platinum Mines Ltd).
- *Implats* (formerly Impala Platinum).
- *Lonmin* Platinum (which includes Western Platinum).
- *Northam* Platinum (Baxter 2019; Hochreiter et al. 1985; Johnson Matthey 1957; Jones 1999).

Between the four of them, these companies produced as much as 80% of the world's PGMs supplies at the end of the 1990s (Baxter 2019; Jones

¹ Which was not dissimilar to the highly concentrated nature of corporate South Africa for most of the twentieth century and the first two decades of the twenty-first century (Capps 2015).

1999). What set these companies apart from most other PGMs producers in the world is that *their focus was (and still is) on PGMs mining, and not the production of PGMs as by-product or co-products from base-metal production*, such as nickel (Jones 1999).

TAKING STOCK AND LOOKING AHEAD

While “the big three” of the PGMs family – platinum, palladium and rhodium – have rare, unique and wonderful qualities, they are all very expensive, which has driven a search for substitutes (Baxter 2019; Lapping 2018). Within the PGMs family, car manufacturers readily make adjustments to their equipment and products to enable switching between platinum, palladium and rhodium as demand, supply and price dictates (Creamer 2019a; WPIC 2019b).²

As in the case of most commodities, there are cycles in supply and demand, and because of the unique qualities of the PGMs, new uses have constantly emerged. PGM producers have been able to sustain and expand and create new markets. To date, there has generally been an expansion in uses, with little loss of the major applications. This may, however, change in both the short and medium to longer term, with the following issues having potentially negative impacts on demand in the two largest market segments of the PGMs, namely catalytic converters and jewellery:

- The USA–China Trade Wars, which threaten global stability and economic growth,³ and the purchase of commodities, including the

² According to Hume and Sanderson (2019), “a switch to platinum (from palladium) could take up to two years and involve the complete reconfiguration of an engine system, battery input and tailpipe”.

³ As postulated by Moody’s in their Credit Outlook of 16 May 2019: “The export-oriented economies of Asia may be particularly exposed to the risk of global and regional trade downturns. And given the importance of both the US and China as sources of export demand and investment, export-oriented Asian economies may find it challenging to navigate between two increasingly hostile trading partners. In the longer term, the deterioration in the trade relationship between the US and China will lead to increased fragmentation of the global trading system and may weaken the rules-based system that has underpinned global growth

PGMs, which may lead to fewer sales of new vehicles that all require palladium, platinum and/or rhodium-containing catalytic converters, and in all lower purchases of jewellery globally, but especially so in China – the biggest market for platinum jewellery (Hsu 2018; Hume and Sanderson 2019; James 2019; Moody’s 2019).⁴

- The hiking of import duties on metal products and cars, including German cars, imported to then-US President Donald Trump, raising the price of these cars, especially diesel cars, and reduce the sales of such cars in the USA.
- The growth in the electrical car market, which will very likely lead to a drop in the sales of petrol and diesel-powered cars that all have catalytic converters containing palladium, platinum and/or rhodium.
- The potential of cheaper opencast mining in other southern African countries (Reuters 2019).
- Of late, the global Coronavirus Disease 2019 (COVID-19) pandemic that has already seen shrinking economies and serious job losses in the USA and South Africa that may weaken the markets for PGMs, with reduced demand for both vehicles and jewellery.

Yet, it is definitely not a doom and gloom story for the PGMs sector, as in the case of its *medicinal and industrial uses or applications*:

- There are no indications that the medical uses of PGMs are set to change – in fact, the market can only grow with ageing populations growing in size throughout the world’s richer countries creating a rapidly growing market for specialised micro-machines, equipment and implants to prolong life and improve quality of life, and a

for the past several decades. Greater inefficiency in production and supply chains will reduce global growth potential.”

⁴ This has already begun, with jewellery demand falling by 7% between the first quarters of 2018 and 2019, with an especially declining demand in China as driver (James 2019). Gapper (2019) pointed to the diamond market created and sustained by De Beers with its slogan of “A Diamond is Forever” as a model to follow in the PGMs sector, especially so in the case of palladium, which still has a very small footprint in this segment of the market.

pharmaceutical industry eager to develop such machines, equipment and implants.

- Robotics and space travel are sure to lead to new uses for metals with the qualities of the PGMs opening up.
- New computing technologies, super-fast processors, nano-technologies, touchscreen-based applications and demands for ever faster and more secure cloud storage, will very likely offset the move away from storage on hard drives that use platinum, to solid-state drives, and cloud-based technologies that also run on solid-state drives.

In the area of *investment and finances*, platinum bars and coins could also be used as financial instruments of choice. This may already be happening, as cited by James (2019) in the most recent *Platinum Quarterly* report, with the WPIC noting that platinum demand increased by 32% year-on-year and proposing that this was attributable to “a surge in investment demand”. James (2019) further indicated that “[i]nvestment demand was high enough to offset declines in the automotive, jewellery and industrial segments”. South Africa was also a beneficiary from this increased demand, as a platinum coin producer, with the South African Mint, along with the UK-based Royal Mint, producing platinum coins. Higher palladium prices were also seen as fuelling a growth in demand for palladium jewellery, seemingly, as the more expensive it is, the more valuable it is in the eye of the beholder, whether as giver or receiver (Hsu 2018; James 2019).

The most promising and potentially game-changing application for PGMs, however, is the hydrogen fuel cell (Baxter 2019; Creamer 2019a, 2019c; East 2019; International Platinum Group Metals Association 2018; Sanderson 2019).⁵ Hydrogen fuel cells are electrochemical devices in which platinum and ruthenium electrodes are used as catalysts to combine hydrogen and oxygen and, in the process of doing so, releasing vast amounts of clean, no-carbon emissions, electrical power in a highly efficient way,

⁵ The first fuel cell was already constructed in 1842 using platinum electrodes (MCSA 2020). It is reported that in 2003, then US-President George W Bush said that he wanted more research into fuel-cell technology for cars (Wired 2003).

with water and heat as the only by-products (Baxter 2019; International Platinum Group Metals Association 2018; Mahaptra and Singh 2014; Ozin 2015; WPIC 2019c). In short, and of crucial importance to the PGMs industry, PGMs are used to turn chemical energy into clean electrical energy. In addition to offering far higher electrical efficiency than conventional forms of power generation, including the turbine generator, photovoltaic cells and wind turbines, they offer fuel flexibility, portability and off-grid, micro-grid and modular applications (Mahaptra and Singh 2014). Government has hinted at such collaboration and the establishment of formal public–private partnerships would be beneficial.

There is a potentially huge market opening up for these hydrogen fuel cells and one which the industry is actively promoting (Creamer 2019a, 2019b, 2019c; Fairley 2019; Sanderson 2019).⁶ Japan and China are actively investing in this technology for vehicles as well as other forms of energy (East 2019; Mehta 2018). Canadian and Chinese researchers have developed technologies to extend the operating life, increase the efficiency and lower the costs of producing hydrogen fuel cells (Duarte 2019; Fairley 2019). While also emission-free, as electric vehicles are, hydrogen fuel cell-powered vehicles also address the current challenge of limited driving range and long charging times of electrical vehicles (East 2019). Hydrogen vehicles are also being trialled on road in parts of Australia, and there is strong support in the country, both inside government and from a number of political parties, for the hydrogen fuel cell (East 2019).

It is important for *South Africa to be a leader in the production of hydrogen fuel cells, and the vehicles that they will power*. Currently, Japan, South Korea, China, Australia and Canada have carved out significant niches for themselves in the hydrogen fuel cell market (East 2019; Sanderson 2019). China, in particular, is investing in the production of fuel cells to meet “Beijing’s target of 1 million fuel cell vehicles on the road by

⁶ The hydrogen fuel cell is watched with eagle eyes by the PGMs industry as it has been observed that “the platinum price will only pick up in response to a new source of demand” and “The industry is going to shrink in size until there is a new source of demand” (Business Coaching Journal Staff 2017).

2030” (Sanderson 2019).⁷ Likewise, Australia envisages reusing its former vehicle manufacturing plants to enter into hydrogen fuel cell-driven vehicle production (East 2019).

South Africa and the Rustenburg region cannot simply be bystanders while PGMs are exported to other countries for use in this new technology and its many lucrative up and downstream applications. It is crucial that both South Africa and Rustenburg do as much as possible to *become and remain part of the hydrogen fuel cell-story*, and both contribute to its success and reap the rewards from it. Of key importance in this regard is the joint initiative of the Gauteng Provincial Government and Implats for the development of a Special Economic Zone – comprising 16 ha of land donated by Implats close to its refinery nearby Springs in the Ekurhuleni Metropolitan Municipality – dedicated to hydrogen fuel cell development (Creamer 2019a).

Finally, there is the issue of *recycling*, which has been viewed with some concern. This will most likely, through efficiency enhancements, see the percentage of PGMs recycled from end-of-life vehicles, computers and medical equipment move close to 100%. Given that the current recycling rate is around 95%, moving it up to even 100%, it will have in all likelihood have a negligible impact on PGMs mining in the region.

These new technologies and assurances around recycling are providing a lifeline to the Rustenburg region, and extend the life of PGMs mining in the region – even in the face of ever-deeper and ever-more expensive mining. This, however, also continues the dependence of Rustenburg on mining as core economic activity, and as indicated in Chapter 4, may contribute to postponing the crucial need for planning for, and transitioning the region into a post-mining future.

⁷ The USA has set a target of 800,000 fuel-cell driven vehicles on the road by 2030 (Sanderson 2019).

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Chapter 3

LIVELIHOODS, THE BODY, AND THE SPACE OF PHOKENG, RUSTENBURG

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ABSTRACT

Livelihoods, the Body, and the Space of Rustenburg discusses the ways in which the ordinary people in Rustenburg are remaking their lives and places, and how the local municipality's spatial and regulatory designs bolster or hinder such efforts. The context is urban growth and economic boom fuelled by platinum mining between 1996 and 2010. These trends, including the outsourcing of work on the mines, put pressure on local jobs and public services, in the process reducing ordinary people's livelihood chances. The chapter draws empirical evidence from Phokeng, a traditional village and the capital of the Royal Bafokeng Nation in Rustenburg, to give content to a scholarship that connects livelihoods research with urban

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¹ The Gauteng City-Region Observatory is a partnership between the University of Johannesburg, the University of the Witwatersrand, Johannesburg, the Gauteng provincial government and organised local government.

theory (southern urbanism). It argues that the spaces of Phokeng, and broadly Rustenburg, shape their development trajectories, the processes which are in turn mediated through ordinary people's liberating bodily senses such as intuition and chance-taking.

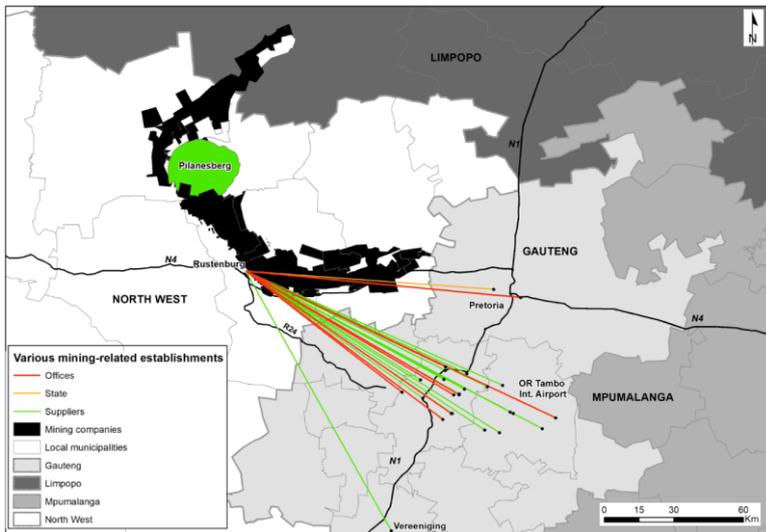
Keywords: Gauteng city-region, livelihoods, Rustenburg, street model, the body

INTRODUCTION

Rustenburg links in several ways to the Gauteng City Region (GCR). These links relate to the location in Johannesburg of financial investments, specialised services, as well as top-level management and coordination of mining companies. Based on those relationships, the largest returns from mining operations in Rustenburg would accrue in the Gauteng province, also because of the daily sourcing and transporting of a large volume of mining production inputs from this province to the Rustenburg mining operations (see Figure 3.1).² It is for this reason that in this chapter the GCR refers to areas that are daily linked to the Gauteng province through labour, commuting, political, administrative, economic and land use connections. In this sense, Rustenburg is one of several areas within the GCR that have a day-to-day relation of dependency on the Gauteng province. The levels of development of those areas vary, such that a poorer area in the Gauteng metropolitan centre, for example Alexandra, has better access to jobs and development facilities than, for instance, Mabopane at this province's edges and KwaMhlanga, further away. Although both further away from Gauteng, a poorer area in Rustenburg has better access to employment and universal

² The mining production inputs include steel plates, grouting cement, consumable drilling steels and bits, commercial explosives, spray paints, mine safety equipment, chemicals for the mine and mine plant, once-off consumable spares, shaft cage and cage ropes and accessories, ventilations pipes, cleaning equipment, hostel food, drinking water, and bulk stationary (Personal communication, officer of a mining company, Rustenburg, emailed raw data 2019). Platinum bars are also sent to Gauteng from the Rustenburg mine refineries. Rustenburg is also linked to Gauteng through the regulatory work of the Department of Minerals and Energy.

public services than KwaMhlanga. This is because the concentration of jobs, goods and services are spatially stratified across the GCR in the following order: their concentration is highest in the metropolitan centres, followed by places such as Rustenburg, then Mabopane, KwaMhlanga and the rural areas. As for Rustenburg, its rate of unemployment in the 1990s – in terms of expanded definition – was about 40%, and its annual migration rate was 25% (Plan Associates 2001).



Source: Map by Samkelisiwe Khanyile and Ngaka Mosiane.

Figure 3.1. The western limb of the platinum mining belt.

In 2016, the expanded unemployment rate in Bafokeng territories was 49.3% (Royal Bafokeng Nation [RBN] 2016). The introduction of the outsourcing of work mechanisms in the Rustenburg mines in the 1990s saw mining jobs cut by half from 72,255 in 1991 to 36,402 in 1998.³ These changes in the labour and migration rates have not only put pressure on local jobs and universal public services, but also diminished the options for

³ Personal communication, officer, then Department of Minerals and Energy, Pretoria, faxed raw data 2001.

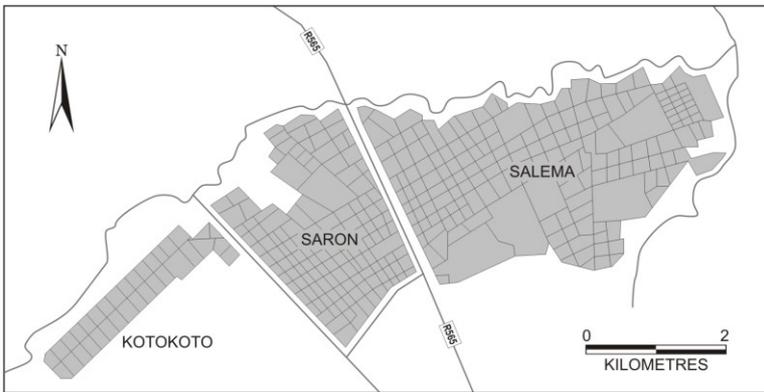
ordinary people⁴ to build livelihoods. Nonetheless, the perception of job availability and livelihood opportunities in Rustenburg persisted among ordinary people. This perception was based on the growth of platinum mining between 1996 and 2013 (GoldRepublic 2019). Additionally, the Bafokeng areas provide cheaper rental accommodation for ordinary migrants, in addition to the informal settlements and Reconstruction and Development Programme (RDP) housing⁵ across the city of Rustenburg. The Bafokeng administration also continues to significantly complement the Rustenburg Local Municipality's (RLM) legislative obligations regarding socio-spatial development. Almost half of the RLM land (40% or 1 400 km²) is owned by the Bafokeng people by way of modern property rights (Manson and Mbenga 2003). Capps (2010) provided a complex historical account of Bafokeng land acquisition, while Mokgatle (1971) detailed the Bafokeng administration's historical land use planning processes. The latter includes socio-spatial arrangements along relatively straight lines (Figure 3.2). This figure provides an example of a community undergoing a process of modernisation during the second half of the nineteenth century. The Saron section was the site of chief Mokgatle Mokgatle and Reverend Christoph Penzhorn of the Hermannsburg Missionary Society.

The mining royalties that flow from the platinum-rich land of Bafokeng are reinvested by buying shareholding rights in businesses ranging from resource companies, financial, insurance, information technology, manufacturing, engineering and transport firms.⁶

⁴ The idea of ordinary people is used to refer to informal workers, domestic and agricultural labourers as well as unemployed people in general.

⁵ The RDP is an interventionist, state-led national development programme adopted in South Africa in 1994. The fully state-funded housing programme came to be called RDP housing.

⁶ The Bafokeng tribal administration derives royalties from the mines operating on their land, resulting in their net asset value of R33.5 billion in 2007 (Royal Bafokeng Holdings 2007). Part of it was raised through the "equity-for-royalty transaction," through which Impala paid annual royalties to Bafokeng in advance for 32 years (R12.1 billion). This money that was invested as shareholding rights, represented a 218% rise from R8.8 billion of the Bafokeng share value in 2005. That payment enabled Bafokeng to convert its platinum assets into equity, buying 9.4 million shares in Implats, and thus becoming the largest shareholder (13.4%) in Impala (Royal Bafokeng Holdings 2007). At the beginning of the twenty-first century, the Bafokeng were already regarded as "The Richest Tribe in Africa" (Manson and Mbenga 2003, 25).



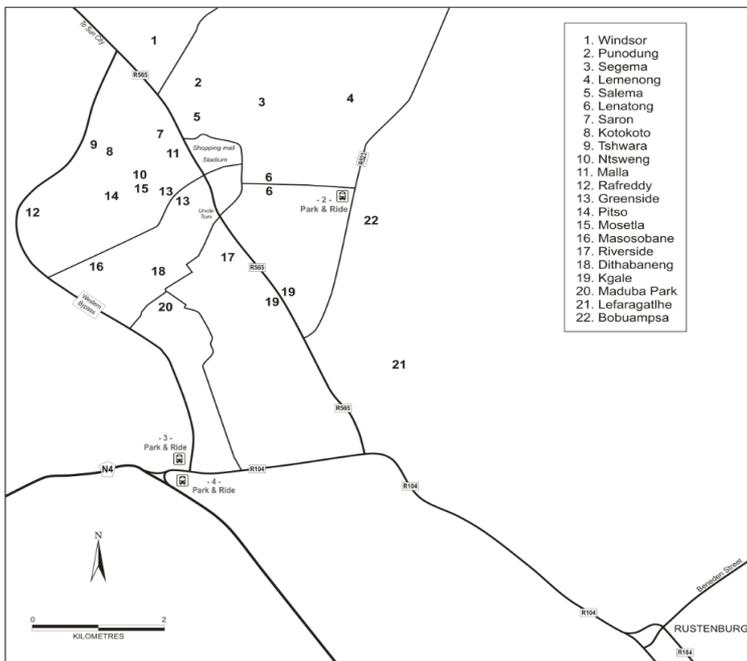
Source: Map by Ngaka Mosiane.

Figure 3.2. Three sections of Phokeng village.

This chapter draws empirical material from various types of sources, ranging from the municipal Integrated Development Plans (IDPs) to qualitative methods. The data was gathered from August 2017 to December 2019, for the larger project “Landscapes of peripheral and displaced urbanisms.” I interviewed relevant Bafokeng officials, household members and 70 business owners in Phokeng, all of whom provided invaluable information on the reproduction of Phokeng as a landscape and the reproduction of the lives of ordinary people living there. The first part of this chapter makes connections between livelihood research, southern urbanism and city studies to create a fertile ground for reflecting, through the Phokeng case study, on the transformative development potential of Rustenburg. The second part of the chapter focuses on the Phokeng case itself (see Figure 3.3), discussing the Bafokeng mining royalties as a fair and rightful share of their common estate⁷ – how the Bafokeng administration has reinvested mining royalties in infrastructural developments and how ordinary people are harnessing such investments for livelihood formation. The third part of

⁷ Ferguson (2015) has recast the idea and practice of the social security system away from the language of safety nets to that of social payments. Social payments are a fair and rightful share of a nation’s common estate, including resources such as mining royalties. For Ferguson (2015), this was a rethinking that offered a number of possibilities: elimination of shame and stigma for recipients, denationalisation of social payments, new political claim-making and mobilisation, as well as new ways of thinking about poverty, unemployment, and development.

the chapter reflects on the Phokeng street model versus its block physical design. This concluding part suggests that the pedestrian and vehicular accessibility of the street may influence movement patterns, which could, in turn, become an asset from which a particular land use can be used to generate livelihoods. The chapter as a whole⁸ argues that livelihoods and social payments, including universal public services, form the development mainline that supports many people in Phokeng, Rustenburg and the Global South (Ferguson 2015). The landscape work shapes the effects of that development mainline, and the landscape is, in turn, mediated through ordinary people's bodily senses such as intuition and taking chances.



Source: Map by Ngaka Mosiane.

Figure 3.3. Phokeng village, showing its sections in relation to the city of Rustenburg.

⁸ This chapter should be read in conjunction with the article ‘Credit, cash transfers, and distributive neoliberalism’ (Mosiane 2019) and ‘Ecology of an egalitarian city’ (Mosiane forthcoming).

LIVELIHOODS, SOUTHERN URBANISM AND CITY STUDIES

The activities and assets often associated with livelihoods – informal work, domestic production of goods, social grants and barter transactions – are recognised as significant constituents of city life (Pavlovskaya 2004). Even in cities of the North, the actions of the not-for-profit sector have long been seen to redistribute livelihoods assets and meet the consumer and welfare needs of ordinary people (Amin and Thrift 2002). In the Global South, traditional livelihood research in the 1990s gave convincing attention to the ways in which sociocultural and economic processes shaped the livelihood trajectories of ordinary people (Moser 1978, 1996). This and subsequent body of work demonstrated how those sociocultural and economic processes structure the people’s ability to differentially access capital and social assets and to participate in the informal economy (Mosoetsa 2011; Oberhauser and Yeboah 2011). It has also shown how spatial processes are significant in shaping and enabling livelihood systems (King 2011). Overall, the interconnections between spatial and socio-economic forces that shape livelihood formation, on the one hand, and livelihood assets, strategies and goals, on the other hand, remain the hallmarks of much of livelihoods research.

The now established scholarship on southern urbanism can be used to not only push livelihood research forward, but also to bridge the gap between livelihood studies and urban theory. Accordingly, Simone (2010) discussed ordinary people making do in the city, weaving together ideas, resources and capital with people of various backgrounds, statuses and capacities. In so doing, ordinary people act as “social infrastructure,” conveying stories, resources, information, cash, obligation and possibilities for everyday existence. Simone’s (2010, 2012) work in many ways can be used to move livelihood studies from their ordered and predictable conceptions, to highlight ordinary people’s unanticipated relationships of all kinds. His work is also useful in how it attends to the more bodily, intuitive actions of everyday gestures, bets, manoeuvres and calculations. This is as ordinary

people in unusually pull together spaces, histories, people, things, information, institutions, finance and politics in the ways that those connections, in turn, introduce uncertainties. Those uncertainties not only defer tendencies for scrutiny and control, but they also disentangle a hold on an urban landscape (Simone and Pieterse 2017).

Having said that, Simone's (2010) work and the evocative language he uses, avoid the social science tradition, which in simple and linear ways, makes assertions that are followed by evidence. Instead, he favours creative representations of what ordinary people's situations might be like, rather than their actual practices. His work can nonetheless be used to incorporate existing insights in the multiple and shifting identities of men and women, who in the process of livelihood formation, participate in several class processes in different contexts. For instance, men can use formal networks, such as groups and community councils, to obtain information for decision-making, leveraging it to access business finance or jobs (Oberhauser and Yeboah 2011). They can then be formal wage workers in one situation, and informal traders in another (Pavlovskaya 2004). In contrast, women use informal collaborations based on reciprocal relationships. They share information, accommodation and food, as well as security, financial and child-care support, in order to access economic resources (Oberhauser and Yeboah 2011). These gendered and class experiences give content to Simone's (2010) ideas of social infrastructure and "intersections" – their distinct positions in society influence how each gender interacts and conveys ideas, capital, objects, spaces, persons and practices.

In urban theory, the experiences of intersections and social infrastructure, as ways of manoeuvring the city, including living and making a living in it, may take forms of sociability or anonymity. In the streets of Accra, for example, social hierarchies of gender and power relations are inverted, with teasing and humour among pedestrians, truck-pushers, street traders and motorists causing distractions and misunderstandings as to the proper courtesies of street use (Quayson 2014). Such emotive actions characterise economic practices of the street, which often open into the culturally saturated mode of social intersection, gaggling and bargaining (Quayson 2014). These forms of sociability point to the body as a primary

form of consciousness and intentionality. In contrast to the shocks of the city stimulating intellectuality and associated blasé attitudes (Simmel 1997), the shocks of the city – its sights and masses of the people – can lead to urban dwellers having a positive experience of the city. For Robinson (2006), the urban dwellers can draw on their sensual selves to imagine the concerns, motives and lives of people in a city. They can parry the shocks of the city with their spiritual selves or even allow their conscious beings to simply note the shocks of a city as part of the flow of life. Therefore, instead of the city skyline overwhelming the body and triggering an attitude of anonymity, the city can be actively sought out to be part of the deeper and intense memories that make up the long-lasting experiences of life (Robinson 2006). Having said that, people's response to the city's challenges and images cannot be predetermined. This is because social relations, rationality, indifference, the sensual and other attitudes are sources of conflict and reconciliation; and the city provides the arena for expressing anonymity, contestations, acceptance of difference, networks of solidarity and identity formation, including the stylish modes of living.

The above-mentioned cultural resources, including the unconscious feelings and the dream, have the potential to emancipate ordinary people from poverty and domination (Robinson 2004). For instance, to escape the ordering regimes of the visual and geometric space, urban residents can draw upon their historical memories of other ways of living through space. They can also reimagine the space and use it through their cultural symbols and meanings; thus, placing the landscape idea on to space. The body signifies this possibility of new spatialities because it is a space of affectivity (of the experiences of feeling and emotions) that cannot be reduced to the rationality of abstract space. The new spatialities of livelihood formation can be created in the fault lines and fissures of the dominant, abstract space by deploying the unconscious feelings (for the intuitive reuse of the city) and the cautious self (for its creative reuse). These resources – the cultural and landscape memories – can be drawn upon to reimagine the future of places such as Phokeng, where research informants draw from their experiences; feelings; imaginations; their place histories; the Western, indigenous and other forms of religious influences; and from what they see around themselves. The

research informants used these resources to critique their present situations and to imagine the future they want. As will be seen in the next section, such spaces of imagination, including those of livelihood formation, remain potentially emancipatory as long as they are left open-ended and not made real. Nevertheless, turning such processes into material forms in specific places is fundamental and unavoidable, and their materialisation, however temporary, is to engage with closure, which is a prohibitive act (Harvey 2000). Therefore, although the body plays a role in the freedom from the absolutism of the Newtonian space–time, it has also produced restrictive spaces (Harvey 2000).

This issue of subject formation – the development of the social, political and economic identities – and the landscapes that such people come to buy into, are differentiated into landscapes created by ordinary people themselves and those created by the “critical infrastructure,” that is, the architects, engineers, scientists, statisticians, financiers, commercial traders, government bureaucrats and religious leaders. In that sense, although universal public services are useful for the viability of ordinary people’s livelihoods, their livelihood spaces exist in a relation of dependency to the dominant landscapes, which circulates the meanings defined for them by the critical infrastructure. These divergent spatial processes (the mainstream, dominant versus livelihood spaces) are mediated by the material networks of support that ordinary people can build at various scales. Importantly, although the dominant spaces and those of ordinary people themselves can cohere into real material landscapes that structure everyday practices and social actions, the sensual, rationality, history and the landscape provide resources for continual exploration and reproduction of new liberatory and livelihood spaces.

SOCIAL PAYMENTS AND SUBSIDISED UNIVERSAL PUBLIC SERVICES AS LIVELIHOOD ASSETS

The mining royalties referred to in the introduction above have given the Bafokeng administration the financial capacity to chart its own development path, not necessarily independently of the South African state. In 2010, the Bafokeng administration allocated R800 million towards local development. It was R400 million less than the 2009 budget of R1.2 billion, in part due to global recession and the decline in the platinum shares (Molotlegi 2010). This budget continued to decline to R616 million in 2018, and to R597 million in 2019. That said, the mining royalties have, from the 1970s, enabled the Bafokeng administration to effect spatial developments, including the building of tarred and paved roads that connect Bafokeng villages with one another. For the RLM at large, which includes Phokeng⁹ and other Bafokeng villages, the national Department of Transport funded the building of the bus rapid transport infrastructure at R3 billion¹⁰. This national intervention was meant to promote access to transportation within 500 m of every household. The Bafokeng administration also provides water infrastructure and services from their mining royalties, as a common inheritance. The majority of Bafokeng (91.8%) have access to piped water, with 79.6% of them having water taps in the yard, and 12.2% of households have water reticulated inside their dwellings (RBN 2016). For much of the post-1994 period, Bafokeng households have been refusing to pay for water services, a stance that forced a sustained subsidisation of this service by the Bafokeng administration. In the broader RLM, water provision is equally redistributive, with higher income groups subsidising those of lower incomes. Table 3.1 shows that the rapidly rising water tariff structure results in higher costs for higher income groups.

⁹ Phokeng is the capital of Bafokeng. A conglomeration of 300,000 people called Bafokeng – a number that includes non-Bafokeng migrants – is distributed across the 29 Bafokeng villages. *Ba* (as in Bafokeng) stands for the English article *the*, and in line with the development of the Setswana language, it has come to be incorporated into the name Bafokeng. It is for this reason that this chapter speaks of ‘Bafokeng’, rather than ‘the Bafokeng’. *Ba* indicates more than one person in Setswana, while *Mo* (as in Mofokeng) indicates one person.

¹⁰ At the time of finalising the book in April 2021, 1 USD = R14.80.

Table 3.1. The 2013/14 graduated water tariff structure of the Rustenburg local municipality

Kilolitre per block	Cost
0 – 12	R111.91
13 – 25	R251.82
26 – 40	R436.92
41 – 60	R716.22
61+	R1,010.64

Source: Personal communication, officer, RLM; faxed raw data (2014).

Almost all Bafokeng have access to electricity that is provided directly by Eskom Holdings Ltd. As for the indigent households that receive electricity from the RLM, they are subsidised by half or in full through a means test. I want to emphasise that these “social payments” are an important avenue for the government to redistribute the fair share of the nation’s joint inheritance. This rightful share (subsidised basic services and social grants) provides valuable resources for ordinary people to make livelihoods, to operate shops, tuck-shops, taverns, and to rent out houses and backyard rooms to migrants. Other interventions made by the Bafokeng administration include the police service and small business support. The enterprise development, including agricultural activities, range from coaching and training, to facilitating market access, as well as financial loans and assistance from the mining and relevant government agencies. It also involves the facilitation of linkages, in the form of procurement opportunities as well as joint ventures between Bafokeng small businesses and larger corporations that operate in the Bafokeng territories. Some of the many linkages that have been established include the production and/or supply of the following goods and services to local mining companies: electrical, gardening, furniture, nuts, bolts, pipes, cleaning materials, and paints.

The Bafokeng administration also continues to build schools and health facilities as well as augment government personnel and teacher training services. Some of the students’ tuition in the two schools independently run by the Bafokeng administration are subsidised. The other 44 schools are owned by the Bafokeng administration and run by the national Department

of Basic Education. Students from all Bafokeng schools receive bursaries to attend post high school training and national universities, a scheme which has come to be turned into a loan arrangement. The administration also complements state doctors, nurses, social workers, and coordinators for people with disabilities and for orphaned and vulnerable children. These workers, including facilitators of “independent living” for people with disabilities, coordinators of frail-aged luncheon clubs; the facilitators of food gardens and feeding schemes in schools and villages, as well as coordinators of food and shelter for disaster relief schemes, are deployed through mobile clinics to the peripheral Bafokeng villages. The people with disabilities are supported to establish non-governmental organisations, through which they run income-generating projects such as chair repairs, sewing/textile, soap making, and recycling.

Overall, while the local security service provides to communities an additional layer of safety to the one already provided by the South African Police Service, the business and education programmes facilitate social mobility, and the health interventions lower the care-related demands on family members who would rather focus on the activities for livelihood formation. This outline of a “fair share” of a community’s joint inheritance is incomplete and should include sports-related programmes. It can also be scaled up to cover the South African social payments, which in the 2020/21 financial year distributed the following amounts to recipients: R1,040 for foster care; R445 for child support; R1,860 for old persons; R1,800 for care dependency; R1,860 for disability; R1,880 for war veterans; and R450 for Grant-in-Aid. Indeed, it can be argued that across South Africa, little progress has been made to consolidate these payments, including the delivery of quality universal public services and basic income grants, because the expenditures for utilities and capital infrastructure have disproportionately benefitted private capital and transnational elites (Mabin 2005; McDonald 2008). With that said, an argument can be made through the case of Phokeng, and to some extent Rustenburg, that the social payments can make an urban redistribution agenda possible in middle-income countries such as South Africa (Parnell 2008). Due to this rightful share of joint inheritance, “cities of the south present a space of

experimentation that prefigures the near future of the west/north” (Mabin 2014, 22). Parnell and Pieterse (2010) called this the “third generation rights” that enable ordinary people such as those of Phokeng to make a living and build their lives as shown in Table 3.2.

Table 3.2. Portfolio of livelihood assets per household

Livelihoods per household in Phokeng	
Letswalo’s household	Manosi’s household
<ul style="list-style-type: none"> a. Renting out twenty backrooms b. Renting a shop c. Water d. Electricity e. Savings-and-credit scheme f. Child support grants (grandchildren) g. Mother’s old-age pension h. Interactions with “extended family-based” ward (<i>Kutle</i>) and its administrative element (<i>Lekgotla</i>) 	<ul style="list-style-type: none"> a. Renting out backrooms b. <i>Mmorogo</i> (mining royalty) c. Water d. Electricity e. Bafokeng university scholarship for daughter f. Savings-and-credit scheme g. Interactions with “extended family-based” ward (<i>Kutle</i>) and its administrative element (<i>Lekgotla</i>)
Sibulele’s household	Rosemary’s household
<ul style="list-style-type: none"> a. Rents out a spaza shop b. Water c. Electricity d. Rents out a house e. Government employee who moved to the city f. Support from <i>Kutle</i> and <i>Lekgotla</i> 	<ul style="list-style-type: none"> a. Restaurant employee, who is a Mofokeng by marriage b. Water c. Electricity d. Interactions with <i>Kutle</i> and <i>Lekgotla</i>
Akhona’s household	Sonwabile’s household
<ul style="list-style-type: none"> a. Municipal employee b. Renting out rooms c. Water d. Electricity e. Interactions with <i>Kutle</i> and ward 	<ul style="list-style-type: none"> a. Mineworker b. Renting out rooms c. Water d. Electricity e. Interactions with <i>Kutle</i> and <i>Lekgotla</i>
Mdluli’s household	Magrita’s household
<ul style="list-style-type: none"> a. Refurbishing constructor (aborted) b. Taxi owner and operator (short-lived) c. Water d. Electricity e. Community organising work f. Wife is an occasional hawker g. Interactions with <i>Kutle</i> and <i>Lekgotla</i> 	<ul style="list-style-type: none"> a. Renting out backrooms b. Tavern c. Boyfriend d. Electricity e. Water f. Neighbours and daughter’s moral support g. Interactions with <i>Kutle</i> and <i>Lekgotla</i>

Table 3.2 shows that social payments, including universal basic services, are integral to household livelihood activities and assets. The livelihood activities include the use of a family house or room (albeit the user often scolded by siblings as well as relationships that enable the sharing of knowledge on financial matters, including *stokvels*¹¹ and gifts from boyfriends. Women can deploy resistance, resilience, and resourcefulness when tradition (*Kutle* and *Lekgotla*¹²) is the only option left for them to access land. They persist with their demands until they obtain plots at locations of their choice, and they use these plots to build houses, spazas, taverns and backrooms to rent out to generate income. In fact, both male and female informants were prepared to resist the traditional authority's threats to their abovementioned activities, which they regard as "replacements for their farming fields" that they had lost to the local platinum mining. A sentiment among a significant number of ordinary Bafokeng is that their administration is not making enough development interventions in their villages, and it is not supportive of their improvised livelihood activities.¹³ The interview excerpts below capture this sentiment:

¹¹ A savings group where members regularly contribute an agreed amount. Each one at a time receive a monthly lump sum payment. Or they may all equally share agreed goods (for example, groceries) at an agreed time such as the end of the year.

¹² A *Kutle* is an institution of governance at the level of related families. The plural for *Kutle* is *Dikutle*. *Lekgotla* is a ward system of local administration under the leadership of a headman, his wife and ward-men who attend to people's day-to-day matters. The plural for *Lekgotla* is *Makgotla*.

¹³ This is expressed through the courts by communities and households wanting to have their land back or even secede. Such communities and households are found in Bafokeng villages such as Chaneng, Mogono, Kanana, Tsitsing, Photshaneng, Thekwaneng and Luka. The contest over Bafokeng history among Bafokeng was brought into sharper focus at a town hall meeting (*Kgotha-kgothe*) during the second half of 2006. The public meeting was meant to agree on the transfer of financial and immovable assets from the Royal Bafokeng Nation account to the newly established Royal Bafokeng Nation Development Trust. Some members of the above-mentioned communities claimed that their distinctive communities in the region did affiliate and submit themselves under the Bafokeng authority from the second half of the nineteenth century for a strategic purpose: to pull together resources (cattle and cash, for example) required to buy land (Caldwell 2002). The current factional campaigns against Bafokeng's common heritage are undoubtedly rooted in historical ownership of land and the contemporary socio-economic inequities among Bafokeng.

Magrita lived in a mud house without any water connection.

Magrita has passed away since I interviewed her. She used to rent out ten rooms to migrants at R80 each per month. Her married daughter, who does not live with her, used to take all the rent to invest it for her mother in a commercial bank. Magrita had a boyfriend who lived with her and who almost every month gave her R500–R600 out of his monthly earnings of about R4,000. After January 2008, she started selling “traditional” beer of United National Sorghum Breweries in her house. She did not have a water tap in her yard because of fear that her aluminium-made “water meter equipment” would be stolen. Water meter equipment that does not attract theft has since been introduced by the Bafokeng administration, but not yet in this yard. The electricity connection was installed by Eskom for free. Water and electricity are significant livelihood assets that support livelihood activities such as backyard rooms for rent and a liquor trade.

Manosi lives at her parents’ house, while her two children attend school in Johannesburg.

Manosi was a hawker for 16 years, selling blankets, flowers, and flower-pots with her mother throughout the Rustenburg district. After the death of her parents, she took over their house and is now renting out five backyard rooms. Since 1988, she has been receiving an annual royalty (colloquially referred to as mmorogo) from Impala Platinum Mines (known as Implats). With the rising price of platinum in the international market, Manosi’s mmorogo amounted to R30,000 in 2006, having increased by 6,000% from 1988. Despite that income, plus the advantage of having the “right surname” related to the royal family, she claimed that she was unable to meet her expenses, including launching a viable business, because, as she put it, “by the time I receive my royalty portion, it is already “damaged,”” as it has to be divided proportionally among all her siblings and their children. She also said that she had been cheated out of her idea of a mining subcontracting company (drilling and blasting) by the managers or executives in the Royal Bafokeng Economic Board. She applied for a business loan from that institution, but her application was denied and her business idea was allegedly passed on to someone else. It thus appears that, in addition to having the right surname, she would still need to have the “right connections” in the Royal Bafokeng Economic Board in order to realise her economic goals (see Compion and Cook

2006). Additionally, she has identified a piece of communal land where she could grow vegetables that she could sell. However, given her failed attempts to get the Bafokeng administration to resolve her problem regarding the drilling and blasting business, she has given up making any further requests from that administration. Her daughter was on a scholarship from the Bafokeng administration to attend a reputable university in Johannesburg, while her son was completing high school in that city. She has since met a widowed boyfriend who is preventing her, on the basis of cultural values they both uphold, to establish contact with anyone, especially with males.

Letswalo lives in her parents' house. Two of her four children live with her.

Letswalo makes a living through renting out her parents' grocery store for R2,500 per month and through renting out 20 backyard dwellings to migrants for R300 per month. She lived with her mother whose old-age pension added to their portfolio of household income. Letswalo had previously attempted to build a block of flats to rent out to migrants, but the project was forbidden by an unnamed authority in the Bafokeng administration. She was once visited by the tribal security force, demanding an explanation for why she was renting out her grocery store to foreigners. She remained defiant against their threats to close her store because she felt strongly that she had the right to rent out her property. The other problem she faces is that if she runs the shop herself, she does not get the support of the local people, who she says, are jealous of her business – she used to make about R300 a day. This is far less than the R2,500 that the Somalian, who rents her shop, makes per day. Although her three daughters might have not taken advantage of the scholarship that the Bafokeng administration used to grant for university education, she is proud of them. In 2008, one of them got a job as a baby-sitter in the United States of America, and she ended up married and living there. Another daughter is married and live in Dubai, while her last-born daughter completed her university undergraduate education.

Mdluli is currently living in Phokeng with his family.

Mdluli is a former mineworker who was also an active member of the National Union of Mineworkers. After an early retirement in 1994, he

made a living mainly through operating a minibus taxi business. Other than that, he volunteered in a local environmental organisation (Lefaragatlha Environmental Forum). Drawing from his experience as a political activist in the mine in the 1980s, he organised the community to engage the Anglo Platinum mining company to fund local development projects. In 2008, the community company – the RCTK close corporation – secured a mining subcontracting work as part of Anglo Platinum’s corporate social responsibility programme. RCTK was appointed to refurbish used mining equipment (hopper or snatch block), at which time Mdluli stopped operating the minibus taxi business. Mdluli’s story is long. Suffice it to mention that the sub-contracting work secured was not seen through for reasons he has not been able to obtain from the company. The process of building the subcontracting company and legally getting an explanation for agreement that was not effected was costly, leaving him with the impression that the RCTK lawyers were bribed by the Anglo Platinum company.

These interview excerpts show that community members are not meaningfully deriving benefits from their wealth. Indeed some some of them gain from local resources such as lucrative subcontracting mining work, but the attempts by others such as Mdluli and the RCTK end up being a waste of family time and resources. With that said, rental forms of tenure on customary land facilitate access to land, regardless of a person’s gender and citizenship. In the northern region of the Bafokeng territory, 46 businesses were owned and operated by Bafokeng, another 40 businesses were owned by Bafokeng but leased out to migrants, and 35 businesses were owned, built, and operated by migrants on sites rented from Bafokeng.¹⁴ These migrants are from Bangladesh, China, Ethiopia, India, Lesotho, Mozambique, Pakistan, Somalia, Swaziland, Zimbabwe and from parts of South Africa. Indeed, the vernacular land market is centuries old in sub-Saharan Africa. The vernacular land market is well-suited for ordinary people, especially migrants, because its negotiable and ambiguous character ensures continuing access to land, rather than only tenure insecurity. For example, Nathi is a migrant who used a rented plot on the Bafokeng land as

¹⁴ Personal communication with an official on businesses in Bafokeng villages, emailed raw data.

a base from which to operate her business. This is where she prepared fat cakes and coffee to serve morning shift mineworkers between 02:00 to 07:00 in the Rustenburg inner city. She did not have a trading site during the daytime. Nathi also applied for an RDP house at Freedom Park, just outside a Bafokeng area. She used the Bafokeng communal plot and downtown Rustenburg to pursue and express her aspirations under the circumstances that are not to her choosing – to operate an informal business, to rebuild her RDP house into a fancier one, and educate her son, giving him a leg up in life (see Figure 3.4).



Source: Photos by Ngaka Mosiane.

Figure 3.4. Nathi's base for livelihood formation on Bafokeng land (left); an expression of part of her aspirations in Freedom Park (right).



Source: Photos by Ngaka Mosiane.

Figure 3.5. Freedom Park as a hodgepodge of urban and rural spaces, subjectivities, and livelihoods.

The class identities of the people of Freedom Park, where Nathi was finally able to express her socialisation, generally depict an urbane, traditional, and rural lifestyle. The outcome is a hodgepodge of elegant and modest spaces, subjectivities, and livelihood activities (see Figure 3.5).

To the extent that the processes of realising the aspirations depicted in Figures 3.4 and 3.5 get to be spatialised (owning a house in Freedom Park and making a living in downtown Rustenburg) is also an engagement with closure, which can be a limiting experience – the peripherality of Nathi’s RDP house and the time at which she can run her business, reinforced the very exclusions she sought to overcome.



Source: Used with permission from the artist, Tshepang Maelangwe.

Figure 3.6. The negative social and environmental effects of the mining-dominated local economy.

That said, ordinary people such as Nathi are able to draw from their imaginations, intellectual qualities, feelings, spirituality, and historical experiences to rework those spatial and temporal peripherality. It is in this sense of Nathi’s actions that living and making a living in the city involves mediating the tensions of city life – of being peripheralised and reworking that peripherality. Additionally, a Mofokeng artist portrays the local development problems through his artwork in the way the Phokeng economy was transformed from agriculture to mining from the 1970s (although mining operations slowly began earlier in the 1920s). Tshepang Maelangwe depicts the economy of Phokeng as dominated by mining activities, which

pushed Bafokeng out of the hitherto profitable agricultural economy. In the process, this shift from agriculture created massive unemployment and brought about social and environmental challenges. Figure 3.6 shows a woman disposing diapers at an open dumping site, which is a symbol of environmental pollution (the mines, village wastes, noise from the passing trains) and social ills such as teenage pregnancy, school dropouts, and unemployment.



Source: Used with permission from the artist, Tshepang Maelangwe.

Figure 3.7. Lemenong section of Phokeng, without soul.

Additionally, Figure 3.7 situates the local development problems in the current spatial interventions by the Bafokeng administration. It shows a Phokeng village section (Lemenong) that is unable to facilitate socio-economic opportunities. In the painting, people leave Lemenong to other villages with mines or to the city in search for better opportunities. For Tshepang Maelangwe, even the school does not contribute to the social vitality of the village because teachers live outside that village, if not outside the Bafokeng territories.

SPATIAL DEVELOPMENT: STREET APPROACH VERSUS BLOCK MODEL

In order to address the types of development problems discussed above – maximise local economic prospects – and maintain the Bafokeng cultural identity, the Bafokeng administration launched a socio-spatial masterplan in 2006:

[T]he masterplan has been conceived within a ... paradigm of perfecting THE ART OF THE POSSIBLE. It is founded on the idea that if you want to achieve big things, you have to dream big, and take big calculated risks to reach beyond your limitations ... In light of this, the term “rural development” seems a little bland, and almost defeatist in its expectations, for I want much more than that for the Bafokeng people (emphasis in original).¹⁵

The Surbana International Consultant company in Singapore was tasked to develop such a masterplan. It proposed the consolidation of peripheral villages into townships, with administrative offices for headmen as well as smaller commercial centres (see Figure 3.8). These centres would provide one-stop services so that villagers do not need to go far to access facilities such as the post office, police station, shops, banks, clinics, early learning centres, and community centres. Additionally, a central urban core would be developed just south of Phokeng for it to benefit from the growth of the nearby city of Rustenburg. The plan was essentially to build a new city from scratch (see Figure 3.9). The Cultural and Commercial Hub of this core would be characterised by the exhibition and convention centres, in addition to commercial activities.

¹⁵ A speech by King Leruo Molotlegi in September 2006. It was then available on the intranet of the Royal Bafokeng Nation.



Source: Surbana International Consultants (2007, vol. 2).

Figure 3.8. Town centre (left) and townships for peripheral villages (right).



Source: Surbana International Consultants (2007, vol. 2).

Figure 3.9. The urban core in Phokeng.

Some aspects of the Excellence Hub have been built, including the R540 million Lebone II – College of the Royal Bafokeng, an independent school owned and run by the Bafokeng administration (Figure 3.10). Similarly, parts of the Sports City were added to those that existed before: the R418 million stadium (that was used for the 2010 Federation of International Football Association – FIFA World Cup) as well as the R275 million sports campus (Figure 3.11). The sports campus, used as basis by the English team during the 2010 FIFA World Cup, is characterised by a high-performance centre, hotel, sports administration offices, and football grounds.



Source: Used with permission by the Royal Bafokeng Administration.

Figure 3.10. Lebone II – College of the Royal Bafokeng.

The Sports City, the Excellence Hub, and the Cultural and Commercial Hub were to be linked through pedestrian road networks, among other connections, which would also be a space for spontaneous interactions (*Surbana International Consultants* 2006). The pedestrian network would also improve the aesthetics of the Phokeng landscape and, thus, “significantly transform Phokeng into a distinctive and vibrant urban area” (*Surbana International Consultants* 2007, vol 2, 14). Such a “space of moment”, the townships and a central urban core generally, are based on the block spatial layout as a basic element of place formation (*Surbana International Consultants* 2007, vol 2, 34). The new urban core would be located along routes of high “global” accessibility. It would thus be inaccessible by foot due to its secludedness. Instead, it would mainly serve motorised traffic, including visitors from outside Rustenburg, and that traffic could easily pass on to competitor establishments elsewhere, even though the sustainability of the centre relies on that traffic. The block model is inward-looking, mainly activating its inner confines, and promoting a consumer culture.



Source: Used with permission by the Royal Bafokeng Administration.

Figure 3.11. Royal Marang Sports Campus (left) and the Royal Bafokeng Sports Palace (right).

Undoubtedly, the masterplan has the potential to deliver a progressive sociospatial redistribution and to provide comprehensive planning, bureaucratic delivery and a needs-based development framework. Indeed, much of the groundwork has been done in historical Bafokeng areas, as already indicated, and ordinary Bafokeng are already using the universal basic services and infrastructure to build livelihoods. Beyond “mass participation” in sport, as part of various modes of social development, activities such as taverns, pubs and grills, bed-and-breakfast, tuck shops, and backyard accommodation significantly benefit from the local, national, and international events that take place at the Royal Bafokeng Sports Palace. Outside of the normal operations of pubs and taverns, it is during the sports events that sports fans tend to visit local taverns and pubs in large numbers. With this said, the experiences of Mdluli, the RCTK, and other community members show that Phokeng remains at the crossroads developmentally. Rather than the block model of development that is divorced from the existing urban core, the street model of integrated road networks where people already live can deliver a generative and sustainable home for all who live in Phokeng (below).

CONCLUSION

In this chapter, I have drawn from a scholarship on “southern urbanism” to reflect on the actions of ordinary people and Bafokeng administration variously rebuilding their lives and reshaping their landscapes. One strand of southern urbanism is the everyday, imaginative, and bodily practices of ordinary people making good use of their limited opportunities. The other strand relates to social payments, including universal basic services, as the pillars of daily life for ordinary people. I used Phokeng in Rustenburg, to give content to a set of ideas on southern urbanism, highlighting the development potential from the mining royalties, as a fair and rightful share of common estate, and associated efforts for ordinary people’s livelihood formation.

Additionally, Phokeng brings into focus how the physical design of an area (its pedestrian and vehicular accessibility) influences movement patterns, which in turn becomes an asset from which a particular land-use can be used to generate livelihoods. One of the reasons why Masosobane, a Phokeng village section in Figure 3.3, benefits from the sports games is that it is accessible through a local road that connects to the R565 spine road and to the western bypass (the Ottoman highway). A number of home-based retail outlets along the local collector road, from Uncle Tom’s through the Lucky Pub and Grill to Markos Pub and Grill, constitute a cluster of Phokeng sections with vibrant socio-economic activities. These experiences demonstrate that a network of roads and streets, tied together into a common space by a collector road, can foster local, cultural, and economic activities. The current cul-de-sac street layout of Phokeng (village sections 7, 8, 10, 11 in Figure 3.3) needs to be redesigned for this purpose. The erection of sidewalk concrete barriers along the R565 road to prevent off-ramping disconnect retail outlets along this lucrative road from being accessed by deliveries and customers in vehicles.

Phokeng already has an existing central urban core. Improving its street accessibility by pedestrians and vehicles, will increase the size of this urban core and facilitate the growth of home-based enterprises. Moreover, seamlessly linking the local streets to the existing connector roads and

highways can enhance Phokeng's potential for inward and outward traffic flows – the N4 (east–west), the Ottoman Highway (the north–south western bypass), and other roads connect Rustenburg and the Bafokeng villages to the broader southern African region (including Mahikeng, Johannesburg, Tshwane, Maputo, and Walvis Bay) (see Figure 3.3).

The important point is that the integrated street and road networks would change Phokeng from being predominantly a space of transit through vehicles to that of pedestrian and vehicular accessibility. It would become a place of experiences and lived practices, with the outward facing perimeter of the street and land uses improving land values and increasing local participation in the local economy. The retail and sociocultural activities, as well as residential land uses along the road lengths will then take advantage of the pedestrian and vehicular traffic. This form of planning represents some kind of local and “global” interdependency for sustainable local sociocultural and economic development. Linked to this planning are social payments, which reflect how much of the world lives, and how much they are the development mainline that supports ordinary people in Phokeng, Rustenburg, and the Global South. These people use such a development mainline for creating a livelihood, and through their bodily senses such as intuition and taking chances, mediate the structuring work of the landscape.

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Chapter 4

**PLANNING FOR A POST-MINING FUTURE IN
THE RUSTENBURG REGION AND
THE TRANSITION TOWARDS IT**

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ABSTRACT

Planning for a Post-Mining Future in the Rustenburg Region and the Transition Towards It introduces the notion of a possible decline in the platinum industry. Platinum is primarily used for catalytic converters in

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internal combustion engines. With the move to electric vehicles, the demand for platinum group metals could fall, severely affecting Rustenburg's platinum-dependent economy and fragile society. This chapter considers how the town can prepare for a post-mining future; a process that will require long-range planning to build non-mining-related economic sectors, create labour-absorbing jobs and rehabilitate the environment. Using desktop research and interviews with key informants, the chapter shows that little preparation is being done, partly because of refusal to believe that mining could end and an environment fraught with mistrust. The chapter argues that focused, multi-stakeholder, collaborative planning, based on credible research, is crucial for the future of Rustenburg and the country as a whole.

Keywords: mining town, Rustenburg, urban decline, urban planning

INTRODUCTION

Over the past 150 years, mining has been one of the most influential shapers of economic activities, social relations, spatial development patterns, power tussles and structures, political questions and debates, institutional structures, and legal and policy frameworks in South Africa. Even though the sector's influence has waned significantly over the last three to four decades, and personal, community and financial services, as well as retail activities, have become more prominent economic players, it is still a major contributor to the national economy and fiscus (Minerals Council South Africa [MCSA] 2020; South Africa, Department of Rural Development and Land Reform 2019).

It is therefore clearly understandable why deliberations and discussions about the future of the country and scenario-crafting exercises about the fate of the nation often include, or have mining as key theme (Goodman, Rajagopaul and Cassim 2019). This can also be in the form of making more of it and doing more with it, while we still have it; keeping more of it for ourselves; giving back more of it to those living in the areas where it takes place; or learning to live with less of it, and weaning ourselves from it by exploring, starting-up and/or expanding other sectors. These engagements often emphasise the need to start as soon as possible with whatever the

remedy, contingency or “life-after-mining” is to be. In many cases, this is accompanied by a lament about the absence of, or the slow pace of starting the planning process of giving effect to this idea, as well as the absence of such plans, or the failure to implement the plans prepared for this purpose.

In many so-called mining towns and regions in South Africa, mining has been the largest economic sector and the most important provider of direct and indirect employment and livelihoods. However significant the sector may be, it is also a capricious one, with the industry marked by booms and busts in a ceaseless interplay between *the price* of the commodity on *global markets* and *the cost* of extraction in *local settings*. Subsequently and not surprisingly, such (local) places are often turmoil-hardened narrators of a well-known mining town narrative of “rise, spike, boom, bang and (big) drop” in which the following are common themes: economic freefall; despair, and accompanying feelings of having been abandoned; a yearning for a bygone, far-better era; and a hope that the good times may (one day) return (Haney and Shkaratan 2003; Harfst 2015; He et al. 2017; Pini, Mayes and McDonald 2010; Stephenson and Wray 2005). While there is a large amount of literature on the environmental costs of mining and mine closure, the social and economic consequences that can extend far beyond the mining town and its immediate surroundings, are less well understood.

Despite these generalisations about mining as economic sector in national “future-probing and seeking pursuits” and the commonalities in these discourses, *the mining towns and regions in the sub-national space they refer to, are far less generalisable*. While some trends, experiences and influences might be shared, the possible, probable and most likely trajectories of their futures diverge. Without delving into the minutiae of these localities, they include places where little can be done other than mining, and where, due to geographical remoteness and worsening climatic conditions, relocation of whole settlements post-mining may be the most viable option. Other places may have a number of still-to-be-harnessed development options that either were not recognised, bothered about or explored during the heyday of the town or region’s mining era, or only became possible through investments made possible by, or undertaken during the boom years. Also, in this mix are places that had a sizeable, or

healthy economy before mining began and where mining resulted in less focus on, or even shrinkage of these other sectors. Finally, there are places that are well-located in relation to established urban or metropolitan areas that could provide the impetus for the development of economic activities or jobs tied to those areas.

A growing body of work in South Africa has explored the fortunes of mining towns and regions in remote, geographically isolated and climatically harsh parts of the country. Their origins lie in the advent of mining activities in the area, or with very small-scale and limited economic activities before the mining era began, notably so in the Northern Cape and the Free State (Marais 2013; Marais and Nel 2016; Marais, Denoon-Stevens and Cloete 2020; Oranje 2013). Additionally, research into mining regions has been taken further through the work by researchers at the University of the Free State and associates into the coal mining town of Emalahleni and surrounding areas (Campbell, Nel and Mphambukeli 2017). This was followed by research into the western limb of the platinum belt led by a team from the Council for Scientific and Industrial Research (CSIR), commissioned by the South African Local Government Association (SALGA) (Maritz et al. 2019). This chapter builds on that research by considering the Rustenburg region and the future of the Platinum Group Metals (PGMs) that potentially have more of a future and may even become key players in a “lower carbon world” (Harvey 2014). However, as this chapter will demonstrate, there seems to be a reluctance to acknowledge a future beyond PGMs and an unwillingness to collaboratively plan for such a future.

FRAMING

In this chapter, the focus is on what has been and is being done, in the Rustenburg region regarding planning for a post-mining future, entailing both a *transitional mining stage* and an *auspicious post-mining stage*.

During the *transitional mining stage*, the *understanding* would be that due to automation or downscaled operations, the mining sector makes an

increasingly smaller contribution to the regional economy, or employment. It is a stage that has to be actively planned and prepared for by focusing on enhancing the role of existing and innovative non-mining-related economic activities and ramping up their productive and labour-absorptive capacities, developing new economic sectors and embarking on environmental rehabilitation.

During the *auspicious post-mining stage*, the *understanding* would first be that there might still be isolated pockets of small-scale mining activity remaining in the region and that there may be research into, and processing of, mineral resources mined outside the region, but that the contribution of the mining sector to the regional economy would be all but negligible. *Ideally so, the preparatory work for and during*, the transitional mining stage would have paid-off and led to the building of *a vibrant and robust new regional non-mining related economy*. The chapter has to be read in conjunction with the history of Rustenburg (Chapter 2) in order to gain insight into the complex set of challenges, role players and interdependencies that shape and have shaped the region and impact on any effort in planning for a post-mining future.

The remainder of the chapter is structured into four sub-sections. The first section contextualises the research in terms of a high-level review of the existing literature on planning for post-mining futures. The second section provides an overview of key findings, as sourced from four data sets, while the third section provides a discussion of the findings in relation to the literature reviewed. The final section provides a brief conclusion to the chapter.

LITERATURE REVIEW

Mine closures (and contraction) can be gradual as the resource declines, but often they are sudden and without warning, driven by distant demand in a globalised economy with traumatic effects on the local community (Godsell 2011; Knierzinger and Sopelle 2019; Pini et al. 2010). Despite the many warnings that closure should be planned for alongside the opening of

a mine, closure planning is frequently delayed, or simply not done at all, until one or more shafts, the mine, or mines start to close (Macdonald, McGuire and Weston 2006). Among the reasons for this are an all-absorbing focus on the here and now; a failure on the side of the industry to share prognoses and plans of future expansion or contraction; an “expedient unwillingness” on the side of “place and constituency-bound politicians” to share “bad” mining sector-related, and hence, “place and constituency”-related news; and a “stubborn unwillingness” to accept that the ore/commodity is indeed being mined out, or becoming too costly to extract (Knierzinger and Sopelle 2019; Schatz et al. 2013; Strambo, Aung and Atteridge 2019; Veiga, Scoble and McAllister 2001).

While there are positive experiences of the transition from mining to alternative economies, there are far more negative experiences where communities have been left high and dry without jobs in a dying economy coupled with deep levels of hopelessness, while municipalities have lost revenue to sustain and provide basic services and support their residents (Shen 2013). The problems are often worse in poor regions where the local communities have little power in the face of international corporations (Knierzinger and Sopelle 2019) and where huge dependencies are prevalent. Bainton and Holcombe (2018, 471) commented that not only are the full social and economic costs of mine closure seldom appreciated, but mines tend to “avoid closure responsibilities and externalise social risks.”

Internationally, responses to contraction of mine operations and the closure of mines have generally included doing nothing besides dismantling the mining infrastructure and abandoning the area, particularly in remote areas (Veiga et al. 2001) or, on the other hand, attempting to revive or substitute the economic base (Strambo et al. 2019). In China’s coal mining regions, industrial development has been pursued to replace the thousands of jobs lost when numerous mines were closed (He et al. 2017). This has been fairly successful in Daqing in China, where the manufacturing of petroleum products has supplemented the oil mining industry (He et al. 2017). Industrial development in Sudbury in Canada has successfully focused on high technology in mining, which has been extended to information industries (Martinez-Fernandez et al. 2012). Proximity to large

cities that already had diverse economies has facilitated the development of substitute economies in Houston and Pittsburgh in the United States of America and the Ruhr Valley in Germany (He et al. 2017).

Some success was achieved with heritage tourism in the mountainous regions of Austria, Slovenia, Serbia and Germany that included rehabilitation to make the areas attractive for adventure and ecotourism (Harfst 2015). Similarly, various heritage projects have been developed in Canada and the United Kingdom (Haiven 2002), while in South Korea, a tourism industry linked to a casino was built up (Shen 2013). Tourism was also planned to support the local economy when coal mining declined in KwaZulu-Natal in South Africa (Nel et al. 2003). However, tourism has not replaced the mining jobs that were lost and is in itself also a very fragile industry, as clearly illustrated by the recent coronavirus disease (COVID-19) pandemic and its consequently imposed travel restrictions and subsequent long-term facility closures.

In regions and places where agriculture was part of the local economy, and especially so where it retained a presence during the mining era, this remains an economic option (Andrews-Speed et al. 2005). Mount Isa in Australia and Rooiberg in South Africa have become such service centres (Godsell 2011; Martinez-Fernandez et al. 2012). However, trying to develop a new agricultural economy where there are limited resources, hardly any sector-specific skills and very few or no markets for the offset of produce, is likely to merely result in dilapidated and vandalised infrastructure, social problems and poverty (Beckett and Keeling 2019; Haney and Shkaratan 2003).

Support from governments in the form of subsidies, grants or loans for small business development has been an important component in managing the economic and social consequences of mine closures (Strambo et al. 2019). Within government circles, both locally and abroad, there also seems to be a growing emphasis on planning for mine contraction and closure from the outset (Owen and Kemp 2018). In the South African context, Anglo American's *Sustainable Mining Plan* (2019) provides an interesting industry example of such planning. This support will, most likely in the current and

post COVID-19 context, prove to be crucial in sustaining lives and livelihoods in many deeply deprived areas.

By far the most important part of managing mine closure is community involvement and participatory planning for social and economic aspects associated with mining decline, particularly in the early phases of closure (Bainton and Holcombe 2018; Martinez-Fernandez et al. 2012). Negative post-mining consequences have been the most devastating in cases where collaboration has failed. Such cooperation should involve the mining companies, the residents and the national, provincial/regional and local government, with government and the residents on an equal footing with the corporate mining companies. Additionally, this requires capacity in government, especially at the local government level, to provide strong local and regional planning and development leadership (Strambo et al. 2019).

Research and Data

The research into the planning for the two stages of a post-mining future in and for the Rustenburg area, namely the transitional stage and the post-mining stage, was qualitative in nature, comprising three strands:

1. A desktop study was conducted into published material and unpublished research reports, papers, conference proceedings and newspaper reports.
2. Content analyses of official national, provincial and local government documents, including the Draft National Spatial Development Framework (NSDF); the plans for the Special Economic Zone (SEZ) in the region; the Northwest Provincial Development Plan (2013) and Spatial Development Framework (SDF 2016); the Integrated Development Plans (IDPs) and SDF for the Bojanala Platinum District Municipality and its local municipalities; and the long-term plans prepared by the traditional authorities for the area. These analyses were extended beyond official planning processes to also include outputs from recent

initiatives aimed at supporting regional planning and economic development in the Bojanala District and surroundings, in which some of the authors were involved. These include the Bojanala Regional Baseline Study spearheaded by the SALGA and funded by the European Union to identify regional development dynamics, economic opportunities and challenges, as well as critical implications for regional role players in the Western Limb of the Platinum Belt; the development of guidelines for regional economic collaboration and engagement with key role players in the region; and a SALGA-initiated training programme to raise awareness and build the capacity of local and district officials for cross-boundary municipal planning in the District.

3. Semi-structured interviews were conducted during the period September 2018 and May 2019 with representatives from mining companies, labour unions, the non-mining-related private sector, community groups, the district municipality and local municipalities in the district, traditional leaders, national and provincial government departments and experts in the mining sector. These were complemented with additional interviews specifically for this research.

Key themes with regard to evidence of planning for the two stages were extracted from the three bodies of data, combined and assessed against the key themes that were extracted from the literature review on the topic of planning for post-mining futures. Both the findings and the outcomes of the comparative exercise are captured in the following section.

FINDINGS

Three key themes were extracted from the data captured. These themes are presented below and discussed in relation to relevant themes identified in the literature review.

Lack of Engagement with Planning for the Future, and Notably a Post-Mining Future

While many plans and frameworks “for the future” have been prepared for the Rustenburg region or for parts of it over the last three decades, these have not, and do not consider or engage a time in which there will no longer be mining activities in the area. This is the case despite the reality of major transitions and severe job losses and economic pain caused by downturns in the fortunes of the sector over the last decade, notably so in the aftermath of the Marikana Massacre. Instead, the plans suggest that the presence of PMGs, and hence, the PMGs mines in the area, were and still are viewed as “a given”, as an eternal, constant feature of the area that will always be there, just like the sky above and the soil below. An example of this is the recently developed Bojanala Special Economic Zone, which relies mainly on the continued presence of the local platinum mining sector (North West Development Corporation 2019). At best, there is the suggestion in some of the plans of a future in which there will be more mechanised and less intensive mining in the region, but not one in which there will be no mining at all. However, even in such cases, not much consideration was given as to the future economic mix of such a changed economic scenario.

In many of the interviews, the absence of planning for the future was echoed in *a reluctance, even an unwillingness, to consider a future without mining*. In a number of these cases, references were made to new mines opening up in the area and promises or commitments, prospects and plans for many more to come in the next couple of years. In some of these interviews it was observed that there are changes in the nature of mining and in the specific metals in the PGMs and other metal groups that are being focused on in these operations and the new mines are, and will increasingly be, more mechanised and therefore employ less labour. When prompted on the future of work and jobs in the region, given these observed and anticipated technological changes, this was often met with a notion of *that is the way of the world and not something I can do anything about*, or the suggestion that people could and should be upskilled to work in such mines. It was not seen or treated as something that could have significant impacts

on what is already a very volatile region and should therefore be carefully planned and prepared for and transitioned towards in a planned fashion.

The Draft NSDF identified Rustenburg as a national urban node that required focused and tailor-made support as a result of the economic decline and increased numbers of households in poverty (see Chapter 2). The surrounding region was also identified as a major national production region for eco-resources with significant agricultural, ecological and tourism infrastructure of national significance, requiring focused and strategic management. While extensive and in-depth analyses led to the identification thereof and informed the prescription of these priority action areas in the draft NSDF, the framework, being at national scale, did not delve into development proposals. It did, however, call for detailed, subsequent planning and plans to diversify the economy and support its transition to the secondary and tertiary sectors, to create transformed, well-functioning settlements, to support agroprocessing, viable mineral and metals beneficiation and alternative energy production, and to strengthen existing connections to and links with the economy's cores in the Gauteng City Region (GCR).

In a few of the interviews it was suggested that there are definite concerns among officials tasked with planning about the future, and a recognition of the need for plans to be prepared for a post-mining future, but that this topic was not popular with "the powers that be" and therefore not something that was pursued too seriously. In some quarters, it would seem that talking about such post-mining futures was career-limiting and akin to blasphemy. Exactly why this kind of engagement was viewed as such by "the powers that be" was not clarified. It should, however, be noted that the mining sector and role players in the mining sector are regarded as critical social partners in the economic development and housing and settlement development in the country.

From the interviews, it also emerged that mining forums in the region, in which all stakeholders and role players participated, have come and gone over the years. This is the case despite the clear indications that any PGMs-related regional development in the area would require active collaboration between all role players to galvanise and re-energise the sector. When asked

about the prospect of regional champions from the side of government to take on the task of rebuilding the forums, no appetite or desire for agency was expressed on the side of local, district and provincial government or organised local government.

On the side of industry experts, it was mentioned that PGMs mining in the area is becoming increasingly more costly given the enormous depths at which the commodity has to be extracted and that there are far more lucrative and lower-cost production options in the Northern Limb of the Platinum Belt, which poses a serious threat to the future of mining in the region. At the same time, they were quick to point out that demand, exchange rates and cost structures are fluid and, hence, it is not that easy to rule out that mines would stay or be making a strong comeback in the region which still has sizeable (but harder to extract) reserves of the commodity.

As for the unique spatial location of the region in relation to the GCR, the economic prospects it offered and potential challenges it held with regard to the future, this was documented in a static map-like fashion in many of the plans, but not engaged, unpacked and made sense of in a spatial, relational sense. It was *as if the region could have been located anywhere in the country*. Yet, when prompted about their daily and weekly movement patterns, it was frequently observed by interviewees that many people who work in the region, live in Tshwane and that frequent weekend trips are therefore made to the entertainment and shopping nodes in Tshwane and Johannesburg. Some also referred to the loss of vibrancy in the towns in the region, due especially to the slump in the local economy experienced since the Global Financial Crash, which drove them to the livelier nodes in the GCR.

It is foreseen that the traditional authorities in the region will most likely continue with the development of and long-term planning for their areas, as referred to in Chapter 2. As opposed to the transient mining companies, they are tied to their lands in the region and have a *vested spatial interest* and will likely be far keener to work on plans that have the long-term sustainable development of the region at heart. With regard to governance, this might, however, lead to the continuation of a problematic *dual governance system* (Maritz et al. 2019).

The limited and fractured engagement with and consideration of post-mining futures essentially meant that there was no planning for the transition towards such futures.

Under-Researched, Underdeveloped, Under-Engaged and Unrealistic Ideas About the Future

In a few plans, ideas and proposals for post-mining futures were put forward, but these were in most cases not based on thorough research, in-depth analysis or consideration of the economic viability and costs and benefits of these ideas or proposals. Neither was there evidence of research initiated or supported by multi-stakeholders, consideration of and deliberation on alternative futures, and mapping of a chosen way forward. As for the content of the proposed futures, many of these could have been put forward for any place or region anywhere in the world – and not necessarily even any mining region – that requested a makeover and had been given a glossy catalogue with equally glossy cookie-cutter futures to choose from, such as tall glass and stainless-steel buildings with hanging gardens, meticulously cleaned walkways, golf course-quality green grass and clear blue skies (see Watson 2014). How the semi-arid, water-scarce region with its huge informal settlements and appalling housing conditions would be transformed into such a “fantasy” future and what the economic base/driver of this future would be, was not clarified.

In some of the interviews, reference was made to economic sectors that would be supported and developed in an attempt at diversifying the economy of the region. Some of these sectors, such as tourism and agriculture, preceded the advent of PGMs mining in the area and, despite losing their prominence during the platinum boom, remained active in the region. Where proposals for strengthening and expanding these sectors were put forward, the adverse impacts of mining on these sectors, especially agriculture, were not adequately considered and the proposals as such did not include proper, targeted transition planning and mediation of the damage done. Full value-chain analysis and planning based on such analysis was also not evident or

provided for. At best, trade-offs in terms of land development, water resources and impact on the natural environment in relation to tourism and agriculture were mentioned (see Rustenburg Local Municipality 2017/2018).

Proposals were also put forward for “manufacturing” as an economic sector that was substantially larger in a number of towns in the region in the past, partially through lucrative State support as part of the apartheid government’s deconcentration policy but had shrunk significantly over the last few decades and currently employs only a small number of people in the region. What exactly the region would manufacture and how it would be able to compete with the large and established manufacturing sector in the core area of the GCR, without the kind of support it received in the past and, for that matter, with other such manufacturing hubs in the country and the world, was also not clear. While it is not doubted that these proposals may have merit, it is just that there was no evidence of the rigorous kind of research required to quantify and qualify them, or the collaborative, multi-stakeholder, focused planning required to properly ground or anchor, establish, advance and support such proposals.

As indicated earlier in this chapter, many of the proposed manufacturing opportunities are also strongly linked to the PGMs, as in the case of the Bojanala SEZ, located at the Bodirelo Industrial Park (a former apartheid deconcentration area). This SEZ seeks to support a number of value chains, including mining input supply, catalytic convertors and platinum recycling; much of the success of this SEZ therefore relies on the continued presence of the PGMs mining sector in the region (North West Development Corporation 2019). Apart from the refurbishment of two commercial sites within the industrial park and promises of commitments by prospective tenants, it has not progressed beyond political promises, statements in the media and related advertisements. Even more concerning is that the SEZ location was not based on an agreement between the municipalities in the region – two of which already have large industrial areas on the N4 national corridor in which such an initiative could have been located. In essence, it is a point-based economic intervention dropped down from above without any regional or local engagement and put forward without the necessary

systems-based analysis and planning for the crucial acupunctural impact it was supposed to have in what has become a popular construct in the fractured and disjointed South African regional economic development playbook over the last few years, namely a bankable catalytic project.

Concerned about the mounting pressures facing mining municipalities and declining mining towns in the region, as well as the inward focus of municipal priorities and the sector-orientated focus of national and provincial initiatives, SALGA commissioned a study to develop a regional baseline for the Western Limb of the Platinum Belt as referred to above. The premise of the study was that generating evidence on the potential implications of the PGMs and mining industry, as well as highlighting emerging economic opportunities and strengths in sectors, towns and regional value chains, would generate support and potentially galvanise actions among local and provincial role players and institutions. The need for regional leadership and collaboration among local role players in planning for a *transitioning economy* was also identified by the national Department of Cooperative Governance and Traditional Affairs, and the region was accordingly selected as a priority site for testing and implementing national guidelines to support such collaboration. However, while the findings of these external initiatives provided a fertile ground for engagement among regional role players and officials to recognise the need for action in utilising opportunities and mitigating risks, it remains an open question what the impact of such credible evidence and the realisation of officials and other role players of the urgent need for plans and action would be. Even more so, in a context where both provincial and other forms of leadership to drive regional development is clearly lacking and where regional action agendas struggle to find voice and be heard in the bigger sea of sector and ward-based projects and performance targets.

A Toxic Prevalence of Deep Divisions, Multiple Suspicions and Simmering Anger, Coupled with a Glaring Absence of Collective, Shared Futures

Talking about the future was in many of the interviews a deeply troubling matter. Given the persistence of past injustices despite the advent (and promise) of democracy in 1994, there was a prevailing deeply despondent sense that *not much will change in the future*. Throughout most interviews, a pervasive discord emerged of a deeply divided community in which hostility, bitterness, suspicion and anger were part of everyday life and negative experiences of “being stumped whenever anyone tried to start their own businesses” abounded. This was often attributed to gatekeepers in businesses and land development processes. These enormous schisms and bitter antagonisms extended beyond the historical colonial and apartheid divisions of race, class and socio-economic status, into the domains of ethnicity, people from other parts of the country and foreigners. Suspicions and cynicism about and anger towards those in power, especially those who were seen as having sided with “the enemy” that is the owners of (mining) capital, were also common.

In engagements with officials on the challenges for regional collaboration, even when the value is recognised, the ability of officials to influence action was limited. Such limitations include a mountain of bureaucratic processes and silo-focused reporting requirements and performance targets, day-to-day crisis management in highly politicised and low-trust environments and a dire socio-economic context that fuels inward and immediate gratification agendas of a variety of role players. The only glimmer of hope was found in a series of anecdotal stories shared about unexpected collaboration and goodwill between local businesses, communities and the taxi industry.

At the same time, there was a sense that *planning for a post-mining future was premature* and viewed by a number of interviewees as part of a plot concocted by mining companies and “their lackies” to shift the focus away from the need to pay living wages or justify the laying-off of workers. Often it was observed that *there are still vast reserves of platinum in the*

area – that there was still *a massive treasure chest of metals stored below the soil* – and that mining companies had made enough money and were simply just no longer interested in the risks and costs associated with extracting these harder-to-get-to-reserves. Suggestions of giving workers *the rights or keys to mine* and supporting them in doing so, were frequently made by such interviewees.

Even among those that were not directly involved in the mining sector, there was not much of a desire to come together and jointly map a way forward towards a post-mining future for the region. In cases where interviewees themselves expressed the need to do so, they invariably doubted the prospect of this happening. According to them, the legacy of decades of injustice and exploitation culminating in the Marikana Massacre; the prevalence of what they perceived to be “collusion between pockets of elites”; corruption, nepotism and ineptness in government; or the lack of collaboration and even open hostility between those with power in the area, namely traditional leaders, elected government structures, mining companies and different elite groupings, ruled against it. As in other mining areas, the lack of sharing of information by mining companies about their operation and future plans with communities and government, was viewed by many interviewees as the single largest hindrance to such planning. This enormous barrage of *negative social capital* is not the kind of attribute on which to build and from which to map a way forward towards a different, new, inclusive and transformed future in which PGMs play a role, alongside a range of other more sustainable economic sectors and ways of making a life and a living in the region.

Lack of Deliberate Action and Leadership, in Spite of a Multiplicity of Role Players and Ever-Increasing Demands for Intergovernmental Collaboration

It was evident from the various sector-specific and integrated plans, studies and research that the city and surrounding region as a dense urban-and-mining and increasingly post-mining landscape, were not only faced

with risks associated with the decline of the mining industry, but also by competing demands on natural resources. These demands are set to grow in intensity due to climate change and a growing population and also pose serious risks to agriculture and ecotourism activities in the region.

Nevertheless, while many of these issues and concerns of opportunities are mentioned in plans and budgets little is done in terms of implementation and action on the ground. At the same time, there is little evidence of attending to these challenges in a collaborative fashion and crafting of a shared vision and future for the region. While there is a strong emphasis on correcting current gaps or deficiencies through the pursuit of good governance, capacity building and municipal financial viability and adherence to regulations and project-based implementation and alignment, very little is said about the focused and sustained crafting of a better future. This void on the future includes no reference to, or engagement with structures such as a *regional, boundary-blind and highly responsive agency or entity* that could galvanise joint action between the multiplicity of role players and institutions and multitude of constituency and place-based infrastructural and sector-focused investment plans and strategies.

SUMMARY AND DISCUSSION OF KEY FINDINGS

The experience in Rustenburg seems to echo the negative consequence of experiences in other areas/cases where the lack of planning for transition and post-mining phases led to economic decline and job losses, with extremely detrimental impacts on the financial viability of local governments (Shen 2013). During the boom years – the period 2001 to 2011 – no investment was done in developing potential future economies and neither were the massive racial income inequalities inherited from the past attended to, or a new, solid, post-1994 foundation of “regional goodwill” built.

All the data clearly suggests that the region is still placing its hope on a future in which PGMs play a dominant role. As suggested in Chapter 2, there are viable future opportunities for the PGMs, especially in the area of the

hydrogen fuel cell, but the realisation of this future necessitates both a huge vote of confidence from, and massive and sustained investment by national government. It also requires of local government and private sector role players in the region to come together and elevate this to a matter of national significance.

The literature clearly indicated the value of community involvement and collaboration between government, mining companies, private sector and communities in preparing for socio-economic challenges related to decline, automation and mine closure, and planning for and transitioning to a post-mining economy. However, the evidence suggests that this was largely non-existent in the Rustenburg region. Given that there are ample opportunities for this within mandated planning processes, such as in the preparation and reviews of IDPs and SDFs, it may still be possible for all stakeholders and role players to do so, and jointly explore, plan for and transition towards a post-mining future in the area.

A further concern when reflecting on planning in this region and in many other regions in South Africa, is the absence of the regional view when undertaking local planning to avoid duplication. It may, however, just be that the recently introduced District Development Model could provide the necessary focus, institutional form and political influence to collectively and creatively craft and move towards such a *“new future” for the region and all its inhabitants*. Of crucial importance is that, as part of this “district drive”, all stakeholders are brought to and kept around the table, deep wounds are healed, fractured and acrimonious social relationships are repaired, the prospect of a future with less or no mining is seriously attended to, the multiple threats to the region are considered and contingencies pondered and planned, and a better future for the region and all its inhabitants is planned, designed and made possible.

CONCLUSION

This chapter presented a worrying set of findings that boil down to one thing: that *little is being done* in the Rustenburg region with regard to

planning for a post-mining future, or the transition towards such a future. This is deeply disconcerting, as focused multi-stakeholder, collaborative planning, based on credible research and sense-making of the future of mining towns and regions in South Africa, is crucial for *the future*, not only of these towns and regions, but of the country as a whole. This will require regional collaboration and the formation of a *regional social compact*. And, whereas the region and its economy were historically primarily shaped by a few large mining companies, such a compact will need to consist of many more, and both large and small and formal and informal role players in the economy.

Given the continued increase in the population of the region and notably so of younger people, sizeable, diversified, inclusive and sustainable economic development will be required. This will necessitate novel, and most likely, highly disruptive approaches to economic development, coupled with innovative approaches to, and forms of business support and capacity building, as well as high impact land reform, improved access to services and a pursuit of food security. These will, in turn, shape the future of governance, service delivery and socio-ecological systems and assist the region in making the transition to a post-mining life and landscape for all.

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Chapter 5

WAGES AND WELFARE IN RUSTENBURG

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ABSTRACT

Wages and Welfare in Rustenburg uses data from a household survey to compare levels of labour market and household welfare inequality in Rustenburg. Mineworkers were found to have higher gross and net hourly and monthly earnings than non-mineworkers. They were also more likely to be permanently employed, be union members and to have a pension, medical aid and unemployment insurance deducted from their pay. Furthermore, mine-employed mineworkers had higher earnings, were more likely to be permanently employed, be union members and to have pension, medical aid and unemployment insurance deducted from their pay than contractor-employed mineworkers. Mineworker households had higher household income and expenditure than non-mineworker and non-employed households, while they also owned more household assets and had access to more public services. They were also less likely to be poor,

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and more likely to believe that their household incomes were at least equal to average household incomes. The chapter also shows that, although the gap between mine-employed and contractor-employed mineworkers remains, the remuneration of both groups improved significantly in the years since the 2012 Marikana massacre, when mineworkers protested against low remuneration.

Keywords: earnings inequality, household income inequality, household poverty, mining community, wage inequality

INTRODUCTION AND BACKGROUND

Events occurring in the early 2010s in the Platinum Belt of the Northwest province shook the political and economic landscape of post-apartheid South Africa. The violence in areas around the Lonmin Platinum Mine in Marikana in August 2012 culminated in the Marikana massacre on 16 August 2012, in which South African Police Service officers shot and killed 34 striking mineworkers. Then, less than two years later, platinum minerworkers embarked on the longest strike in South African history, from January 2014 to June 2014,. These events shed light on issues about the earnings and working and living conditions of South African mineworkers. Alexander (2013, 26–27) reported that in interviews with workers involved in the Marikana protests in 2012, they indicated that they earned take-home pay of between R4 000 and R5 000¹ a month (including the living-out allowance workers received for accommodation expenses). They demanded a minimum wage of R12 500 a month. These two events also highlighted the plight of workers employed by labour brokers; these workers often have lower earnings and fewer employment benefits than workers who are employed directly by mines.

Previous studies found that South African mineworkers receive higher earnings than workers in other sectors (Burger and Geldenhuys 2018; Makgetla and Levin 2016). Burger and Geldenhuys (2018) also found that

¹ At the time of finalising the book in April 2021, 1 USD = R14.80.

mine-employed (ME) mineworkers in Postmasburg² receive higher earnings and enjoy more employment benefits than contractor-employed (CE) mineworkers. These findings corroborate evidence of wage and benefit penalties for outsourced workers and workers in alternative work arrangements in the United States of America (Dube and Kaplan 2010; Katz and Krueger 2019), as well as South African evidence of such penalties for workers employed by labour brokers or temporary employment services (Cassim and Casale 2018). Furthermore, Burger and Geldenhuys (2018) and Geldenhuys and Burger (forthcoming) also found that the household welfare levels of mineworker households exceed those of non-mineworker households in Postmasburg and Emalahleni.³

In this study, we used household survey data to compare labour market outcomes for different types of workers and the household welfare levels of different types of households in Rustenburg. We found that mineworkers have higher monthly and hourly earnings and have more employment benefits than non-mineworkers. Among mineworkers, ME mineworkers receive higher monthly and hourly earnings, and more employment benefits, than CE mineworkers. This bears out complaints by CE mineworkers as far back as the Marikana protests that preceded the Marikana massacre.

Furthermore, we found that mineworker households have higher levels of household income and spending than other households, while they own more assets and have access to more public services, and they are also less likely to be poor. Mineworker households also place themselves further up the income distribution than other households.

The rest of this chapter is structured as follows: section 2 describes the data and method that we used in this study, section 3 presents and discusses our results, while section 4 concludes.

² A small iron ore mining town in the Northern Cape province of South Africa.

³ A large coal mining town in the Mpumalanga province of South Africa.

DATA AND METHOD

In this section we describe the data, definitions, study design and research methods that we used to compare the labour market outcomes of different types of workers and the household welfare levels of different types of households in Rustenburg.

Data and Definitions

In September and October 2018, fieldworkers collected household data from 2 323 people residing in 945 Rustenburg households. This household survey contained modules on labour market outcomes, household income, spending, asset ownership and access to public services. Similar data is regularly collected by the Quarterly Labour Force Survey and the General Household Survey conducted by Statistics South Africa (Stats SA), as well as the National Income Dynamics Survey conducted by the Southern African Labour and Development Research Unit at the University of Cape Town. For more information on the sampling strategy that we used, refer to Chapter 1 of this volume.

To compare the labour market outcomes of workers in Rustenburg, we distinguished between two types of workers: mineworkers and non-mineworkers. Mineworkers are workers who report working at a mine (they could be cleaners, security guards, human resource officers, drillers, blasters, engineers), while non-mineworkers do have a job, but not at a mine. We also distinguished between ME mineworkers and CE mineworkers: ME mineworkers are employed by the mine where they work, while CE mineworkers are not employed by the mine where they work but are employed by a contractor or labour broker.

Furthermore, to compare the household welfare levels of households in Rustenburg, we distinguished between three types of households: mining households, non-mining households and non-employed households. Mining households have at least one mineworker resident; non-mining households

have at least one employed resident (but no mineworker residents); and non-employed households have no employed residents⁴.

Study Design and Research Method

Researchers use three types of study designs to analyse the effects of mining on labour market outcomes and household welfare, namely cross-country studies, sub-national studies, and local case studies (Gamu, Le Billon and Spiegel 2015). Our study was a local case study, in which we used cross-sectional data. While this study design allowed us to collect detailed information about the socio-economic background of a sample of people and households in Rustenburg, it did not allow us to draw causal inferences about the effects of mining on labour market outcomes and household welfare. Despite this drawback, local case studies serve as important complements in mixed-method studies (see other studies in this volume) that attempt to understand all the effects of mining on a town (Gamu et al. 2015).

To compare the labour market outcomes of mineworkers and non-mineworkers, and ME and CE mineworkers, we estimated and compared sample means and standard deviations for monthly earnings, weekly hours worked and hourly earnings. We trimmed the bottom and top 1% of observations for monthly earnings and weekly hours worked, to avoid means and standard deviations being skewed by outliers (Devore and Berk 2011). Furthermore, we estimated and compared proportions for other labour market outcomes, such as trade union membership, the presence of deductions of medical aid, pension fund and Unemployment Insurance Fund

⁴ Following standard economic definitions of these variables, the non-employed are people who are not employed or self-employed, while the unemployed are people who are willing and able to work, but who are not currently employed or self-employed. The difference between these two definitions is that while the non-employed can be economically active or not (i.e., can be members of the labour force or not), the unemployed are economically active (i.e., are part of the labour force). Non-employment is therefore a broader category than unemployment: all unemployed people are non-employed, but not all non-employed people are unemployed. Also see footnote 8.

(UIF) contributions, receipt of a bonus (13th) cheque, and permanent employment status.

To compare the household welfare levels of mining, non-mining, and non-employed households, we estimated sample means and standard deviations for per capita household income and spending. Following the example of the Organisation for Economic Cooperation and Development (2011), we used the square root of the number of household residents (i.e., household size) as an equivalence scale, where an equivalence scale allows researchers to account for the varying consumption needs for households with different compositions, as well as possible economies of scale in household consumption (Haughton and Khandker 2009). Therefore, we obtained our measures of monthly per capita household income and spending by dividing the total monthly household income and spending by the square root of household size. Furthermore, we trimmed the bottom and top 1% of observations of household income and spending to avoid outliers skewing the means and standard deviations of these two variables.

We also estimated the sample proportions of household ownership of assets such as televisions, paid television services (for example, satellite television subscriptions), personal computers, cell phones, smartphones or tablets, fridges, ovens, microwave ovens, cars or motorcycles (private motorised transport) and residence in a formal dwelling. Additionally, we also estimated sample proportions for access to public services such as piped water on site, a working flush toilet on site, and the use of electricity for either lighting, cooking, or heating.

We then used ownership of these assets and access to these public services to construct two asset indices as additional measures of household welfare (in accordance with the studies by Burger and Geldenhuys 2018 and Geldenhuys and Burger, forthcoming). Researchers often use asset indices as alternative welfare measures in emerging market economies in which data on household income and spending may be unavailable, poorly measured, collected or reported (for example, Booysen et al. 2008).

Estimation of the first asset index – the count asset index – involves counting the total number of assets owned and public services that households have access to (Hartgen, Klasen and Vollmer 2013), while the

estimation of the second asset index, the principal components asset index, involves using a principal components analysis (PCA) on the standardised values⁵ of the asset ownership and public service access variables described above to obtain the PCA asset index (for example, Harttgen et al. 2013; Vyas and Kumaranayake 2006).

For both asset indices, higher index values corresponded with greater household welfare: the values of the count index ranged between 0 (the household has no access to any of the listed public services and owns none of the listed household assets) and 13 (the household has access to all of the listed public services and owns all of the listed household assets). The PCA index can take on negative or positive values due to standardisation of the public service access and household asset ownership variables. The main difference between these two asset indices is that while the count asset index assigns an equal weight (of one) to all assets and services in the index, the PCA asset index assigns different weights to each asset or service. The PCA index assigns higher weights to the standardised asset ownership or public service access variables that are the most strongly correlated with (latent) household welfare, which is assumed to be the first component extracted when using PCA to construct the PCA asset index (Harttgen et al. 2013; Vyas and Kumaranayake 2006).

To analyse and compare the incidence, depth and severity of poverty among different types of households in Rustenburg, we estimated the Foster–Greer–Thorbecke (FGT) class of poverty indices (Foster, Greer and Thorbecke 1984). We estimated the FGT poverty indices using:

$$P_{\alpha} = \frac{1}{N} \sum \left(\frac{G_i}{z} \right)^{\alpha} \quad (1)$$

Where $\alpha = \{0,1,2\}$, G_i denotes the gap between household income or spending and the poverty line, z denotes the poverty line and N denotes the number of households. P_0 (with $\alpha = 0$) is the poverty headcount and denotes the proportion of households living in poverty (i.e., with income or spending

⁵ To obtain a standardised value (or z-score), take an observed value of a variable (x_i), subtract its mean (\bar{x}) and divide the resulting difference by its standard deviation (s_x), i.e., $z = \frac{x_i - \bar{x}}{s_x}$.

levels less than the poverty line); P_1 (with $\alpha = 1$) is the poverty gap and denotes the average distance that poor households lie from the poverty line; and P_2 (with $\alpha = 2$) is the squared poverty gap and denotes the degree of income inequality among the poor. Higher values of P_0 , P_1 and P_2 indicate greater levels of poverty. We used two poverty lines to estimate the FGT poverty indices for Rustenburg households: the so-called lower-bound and upper-bound poverty lines, both estimated by Stats SA (2018a). In 2018, the lower-bound poverty line equalled R785⁶ per person per month, while the upper-bound poverty line equalled R1 183 per person per month (Stats SA 2018a).

We also compared the subjective income distribution rankings of households. We did this by estimating the sample proportions of households that consider their household incomes to lie above or below that of other households in their town, and by estimating the mean position of households on a six-rung ladder, depicting the distribution of household income in South Africa (the sixth rung of the ladder corresponded with the top of the South African income distribution). Household respondents indicated the position of their households on the South African income distribution ladder for three periods: 10 years prior to the interview, five years prior to the interview and the interview date, thereby allowing us to compare evolutions in the subjective income distribution rankings of households over time.

Finally, in Figure 5.1 and Figure 5.4 to 5.6, we present point estimates of the means, along with the 95% confidence intervals of these means, for variables like monthly and hourly earnings, weekly hours worked, per capita income and spending, asset indices, FGT poverty indices and subjective income rankings. We estimated these 95% confidence intervals using:

$$mean \pm t_{v,0.025} \times (se) \quad (2)$$

Where $t_{v,0.025}$, is the 97.5th percentile of the t-distribution with v degrees of freedom, and se is the standard error of the mean (Anderson et al. 2017). To determine if differences in means between different types of workers or

⁶ At the time of finalising the book in April 2021, 1 USD = R14.80.

different types of households were statistically significant, we conducted t-tests, using:

$$T = \frac{d}{se_d} \quad (3)$$

Where d is the observed difference in means between two groups, and se_d is the standard error of the difference between the means. If the probability of observing a t-value that is as extreme, as our estimated T is small (usually taken to be less than 5%), under the null hypothesis that there is no difference between the two means, we conclude that the observed difference between the means is statistically significant (Anderson et al. 2017).

RESULTS

In this section, we compare the labour market outcomes of people and the welfare levels of households in Rustenburg. Before turning to these results, we first briefly describe some of the demographic characteristics of our sample. Of the 945 households in our sample, 41% were mining households, 22% were non-mining households, and 38% were non-employed households. The mean household size of mining households was slightly larger than that of non-mining households (just more and just less than 2.7 residents), while non-employed households are the smallest on average (only two residents on average). Just more than half of non-employed households were single-person households, while almost a third and just more than a quarter of non-mining and mining households were single person households. All three household types had very similar mean household dependency ratios⁷ of just less than 17%.

Turning to the characteristics of self-identified household heads, we found that the mean ages of household heads were very similar: just more than 42 years for non-employed households, and just less than 42 years for

⁷ Ratio of number of household residents younger than 15 and older than 65 to total number of household residents.

non-mining and mining households. The percentage of African household heads were also very similar: 99% for non-employed households, 97% for non-mining households, and 98% for mining households. We did find large gender differences in headship between the different types of households: just more than half of non-employed households had female heads, while almost 60% of non-mining households, and more than 80% of mining households, had male heads. Eighty-three percent of the heads of mining households reported that they lived in Rustenburg in 2008, followed by 79% of the heads of non-mining households, and 70% of the heads of non-employed households (70%). Furthermore, non-mining household heads had the highest educational attainment, followed by heads of mining and non-employed households (8.9 years of education completed, against 8.4 and 7.4 years).

Labour Market Outcomes

In this sub-section, we present evidence about the labour market outcomes of working-age people (15- to 64-year-olds) in Rustenburg. As Table 5.1 shows, more than three-quarters of the sample were of working age, and almost 45% of them were employed, which is in line with the national average at the time of the study and about seven percentage points higher than the provincial average at the time (see Stats SA 2018). Furthermore, 60% of the workers were mineworkers; of these, almost 80% were employed by the mine, and 93% reported working in a shaft.

Unemployment was high but was in line with national and provincial averages: the narrow unemployment rate was 33%, while the broad unemployment rate was almost 41%.⁸ As is the case nationally, the

⁸ Stats SA (2018b) defined the narrowly unemployed as people who are 15–64 years old, who are willing and able to work, who are not currently employed or self-employed, and who have looked for work in the four weeks prior to their survey interviews. Broad unemployment, on the other hand, is defined almost identically, with the only difference being that it includes those who have not been looking for work in the four weeks prior to the survey interviews. In the third quarter of 2018 (July to September), the national narrow and broad unemployment rates were 27.5% and 37.3%, respectively, while the provincial narrow and broad unemployment rates of the North West were 28% and 43.9%, respectively (Stats SA 2018b).

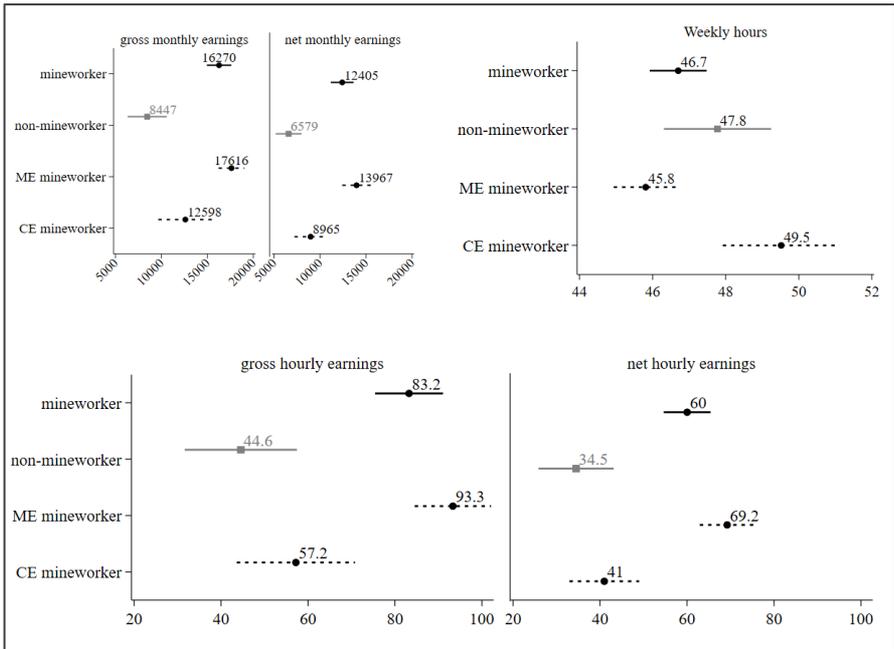
unemployed in Rustenburg were overwhelmingly long-run unemployed: only 35% of the narrowly unemployed reported having ever worked before, while 73% of those who had worked before, had been without work for more than a year. For the broadly unemployed, these rates were 29% and 73%, respectively.

Table 5.1. Labour market indicators for working-age (15–64-year-old) adults, Rustenburg

Labour market indicators	<i>n</i>	%
<i>Labour market status</i>		
Not economically active	410	24.5
Non-searching unemployed	146	8.7
Searching unemployed	369	22.1
Employed	747	44.7
<i>Labour force participation</i>		
Labour force participation rate (broad)	1 262	75.5
Labour force participation rate (narrow)	1 116	66.8
<i>Unemployment rate</i>		
Broad	515	40.8
Narrow	369	33.1
<i>Time since last job (broad unemployment)</i>		
Ever worked	149	28.93
Less than 3 months	6	4.17
3–6 months	10	6.94
6–12 months	23	15.97
1–3 years	45	31.25
More than 3 years	60	41.67
<i>Time since last job (narrow unemployment)</i>		
Ever worked	130	35.23
Less than 3 months	4	3.17
3–6 months	8	6.35
6–12 months	22	17.46
1–3 years	39	30.95
More than 3 years	53	42

Source: Own calculations, using our household survey data from Rustenburg, 2018.

Notes: *n* = frequency, % = percentage.



Source: Own calculations using data from our Rustenburg household survey, 2018.

Notes: Earnings and hours were trimmed at their 1st and 99th percentiles. This figure shows 95% confidence intervals for the mean gross and net monthly earnings and mean weekly hours worked (top row), as well as mean hourly earnings for mineworkers and non-mineworkers, and ME and CE mineworkers (bottom row). All pairwise differences in means (between mineworkers and non-mineworkers; and between ME and CE mineworkers) are statistically significant at the 5% level, with the exception of the difference in mean weekly hours worked between mineworkers and non-mineworkers.

Figure 5.1. Mean gross and net monthly earnings, weekly hours worked, as well as gross and net hourly earnings of different types of Rustenburg workers.

Figure 5.1 shows that the mean gross and net monthly earnings of mineworkers were almost double that of non-mineworkers, while the mean gross and net monthly earnings of ME mineworkers were 40% and 56% greater than those of CE mineworkers, respectively. The mean gross and net monthly earnings of CE mineworkers exceeded those of non-mineworkers. Differences in monthly earnings between workers were due to differences in hourly earnings and/or differences in the number of hours worked, which

are summarised in the other two panels of Figure 5.1. At a gross income per hour of R93.3, ME mineworkers earned significantly more per hour than the R57.2 of CE mineworkers.

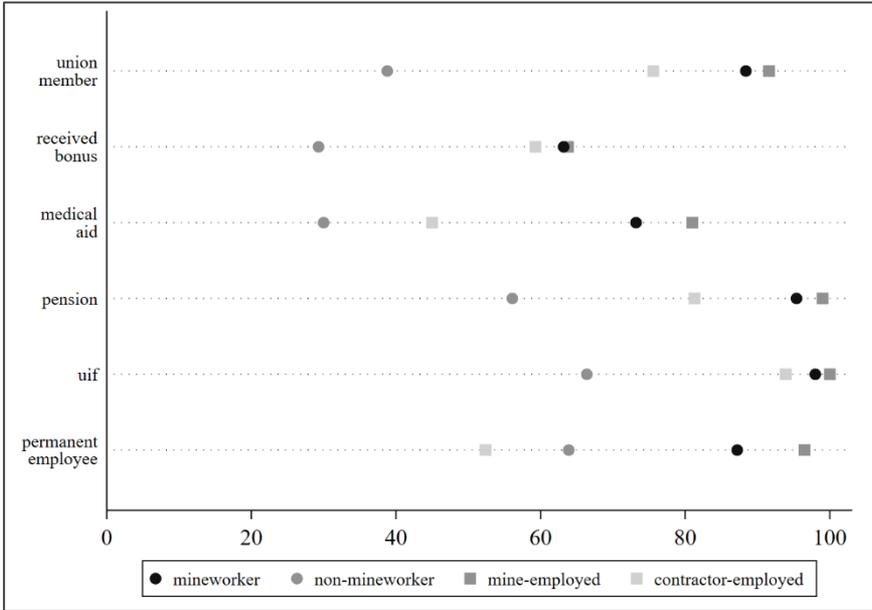
One concern was that the response rates for earnings questions were quite low. Just less than a third and just more than a third of the workers reported their gross and net monthly earnings; The response rates of mineworkers were about eight percentage points lower than that of non-mineworkers, and the response rates of ME mineworkers were 12–20 percentage points lower than that of CE mineworkers. The response rates for the other labour market outcome variables that we analyse here were much higher.

Figure 5.1 also shows that, on average, non-mineworkers worked one hour per week more than mineworkers, while CE mineworkers, on average, worked almost four hours per week more than ME mineworkers, and almost two hours per week more than non-mineworkers. These differences in hours worked per week therefore imply that the differences in monthly earnings were mainly due to differences in hourly earnings⁹, as Figure 5.1 shows. Most strikingly, the mean gross and net hourly earnings of ME mineworkers were 63% and 69% greater than those of CE mineworkers, respectively. While CE mineworkers had a greater mean gross and net hourly earnings than non-mineworkers, these differences are much smaller than those between mineworkers and non-mineworkers, as well as those between ME and CE mineworkers.

Figure 5.2 shows how union membership, employment benefits and duration of employment agreement varied between mineworkers and non-mineworkers, as well as between ME and CE mineworkers. Mineworkers were almost 50 percentage points more likely to be union members than non-mineworkers, while they were more than twice as likely to have received a bonus and have their employers deduct medical aid contributions from their pay. They were also much more likely to have their employers deduct pension and UIF contributions from their pay and be employed on a

⁹ Monthly earnings = hourly earnings × monthly hours.

permanent basis. These three proportions were almost 40, 32 and 24 percentage points higher than those of non-mineworkers.



Source: Own calculations using data from our Rustenburg household survey, 2018.

Notes: This figure shows the percentage of workers enjoying a particular benefit or whose job possesses a particular characteristic. UIF = unemployment insurance fund, received bonus = received a bonus in the past 12 months, pension, medical aid = pension and medical aid deductions. Circles denote different types of workers (mineworker and non-mineworker) while squares denote different types of mineworkers (ME and CE).

Figure 5.2. Union membership, employment benefits and job characteristics of different types of Rustenburg workers.

Furthermore, ME mineworkers were more likely to be union members, to have received a bonus, to have deductions for medical aid, pension and UIF, and were more likely to be permanent employees than CE mineworkers. Some of these differences between ME and CE mineworkers were smaller than the differences between mineworkers and non-mineworkers but were still large: ME mineworkers were almost twice as likely to have medical aid deductions, were almost 20 percentage points

more likely to have pension deductions and were almost twice as likely to be permanent employees. Compared to non-mineworkers, CE mineworkers were more likely to be union members, receive bonuses, and to have medical aid, pension and UIF deductions. But they were less likely to be employed on a permanent basis.

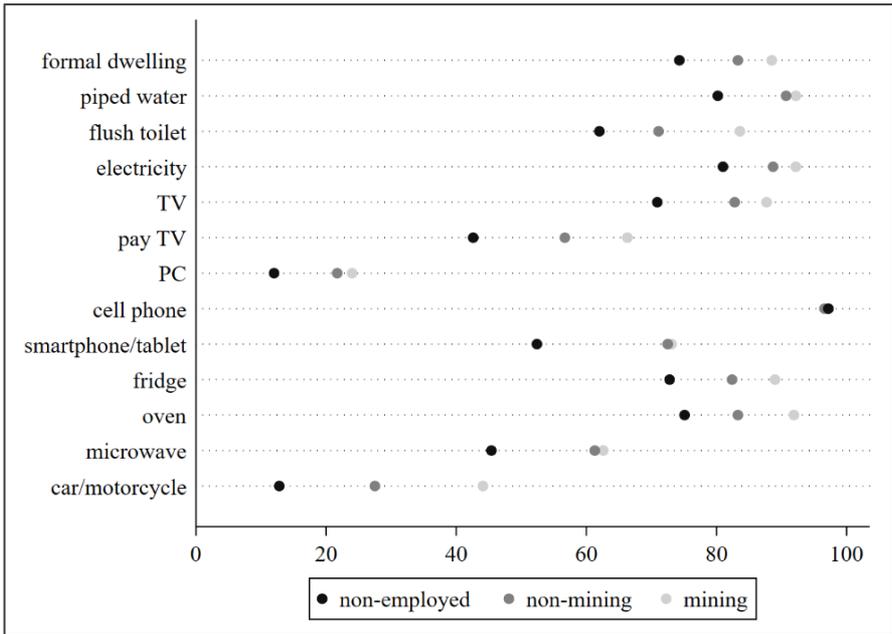
Household Welfare

In this sub-section we compare household welfare levels in mining, non-mining and non-employed households. We use household income per capita, household spending per capita and household access to public services and household asset ownership as indicators of household welfare. We also compare the incidence, depth, and severity of poverty, as well as the subjective income distribution rankings for these three types of households.

Household Income, Spending, and Asset Ownership

Figure 5.3 shows that mining households were most likely to reside in formal dwellings and have access to public services, such as having piped water on site, having a flush toilet in their yard, and using electricity. They were also most like to own household assets, such as televisions, personal computers, refrigerators, ovens, microwave ovens and private transportation, while non-employed households were least likely to have access to these public services and own these household assets. They were also least likely to reside in formal dwellings.

As Figure 5.3 shows, the differences in access to public services and ownership of household assets tend to be large. As expected, due to the lack of employment income for non-employed households, the differences between non-mining and non-employed households tend to be greater than the differences between mining and non-mining households. The only asset for which there was no difference in ownership levels, was cell phone ownership, which was ubiquitous across all three types of households.

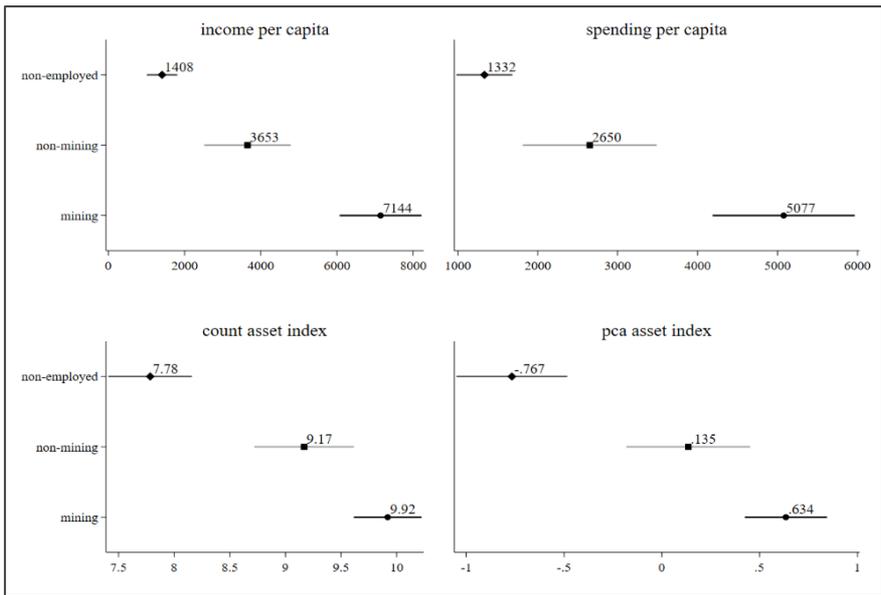


Source: Own calculations using data from our Rustenburg household survey, 2018.

Notes: formal dwelling = lives in a dwelling that is neither a traditional dwelling nor an informal dwelling/shack; piped water = has piped water on site; flush toilet = has flush toilet in yard; electricity = uses electricity for lighting, heating or cooking; TV = television; pay TV = paid television subscription (e.g., DSTV); PC = personal computer.

Figure 5.3. Household asset ownership/access of different types of Rustenburg households.

These results were confirmed by the means of our estimated count and PCA asset indices shown in Figure 5.4: mining households had the highest mean asset index scores, while non-employed households had the lowest mean asset index scores. Specifically, the count asset index implies that, on average, non-mining households own more than one additional asset, or have access to more than one additional public service, than non-employed households; while, on average, they own almost one asset fewer, or have access to almost one public service fewer, than mining households.



Source: Own calculations using data from our Rustenburg household survey, 2018.

Notes: Income and spending were trimmed at their 1st and 99th percentiles, while income and spending per capita were obtained by dividing income and spending by the square root of household size. This figure depicts 95% confidence intervals for the means of income and spending per capita, as well as 95% confidence intervals for the means of the two asset indices (bottom row). All pairwise differences in means (between non-employed and non-mining households; between non-employed and mining households; and between non-mining and mining households) are statistically significant at the 5% level.

Figure 5.4. Means of household per capita income, per capita spending, and asset indices for different types of Rustenburg households.

Furthermore, Figure 5.4 also shows very large differences in mean per capita household income and spending levels between the three types of households: the mean income and spending levels of mining households were about double those of non-mining households, which were, in turn, more than twice as high as those of non-employed households. The results that we present in Figure 5.3 and 5.4, therefore, clearly show that mining households have higher household welfare levels than non-mining households, who have higher household welfare levels than non-employed households. Just like we noted the low response rates of workers to the

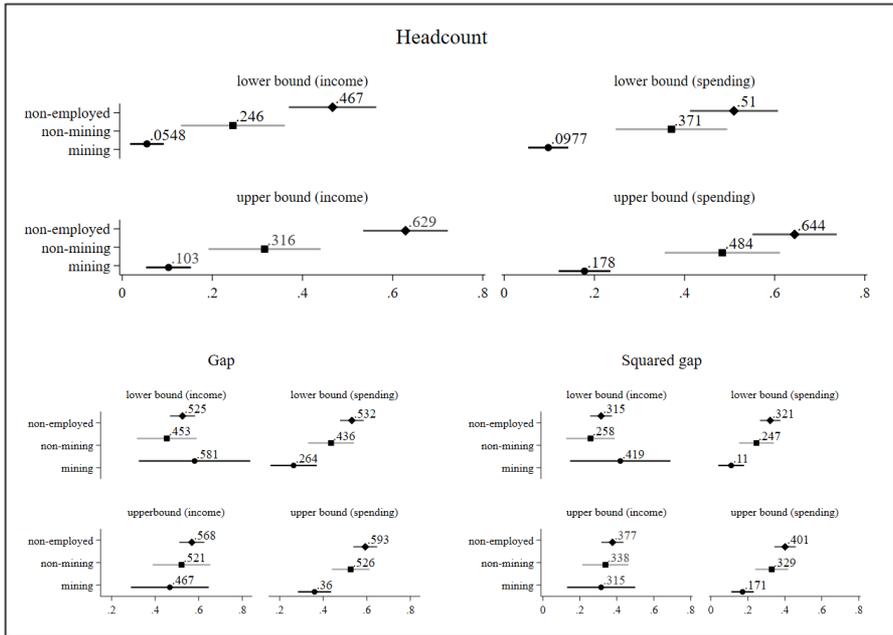
monthly earnings questions, we must note that most households did not report their household income and spending levels. Only about one-third of the households reported their income and spending levels, and mining households were more likely to report their income and spending levels than non-mining and non-employed households: these response rates were almost 40%, compared to less than 30%, and less than 30%, respectively, for mining, non-mining, and non-employed households. The response rates for all of the other household variables that we analysed here were very high.

Household Poverty

Figure 5.5 shows the FGT poverty indices (poverty headcount, poverty gap and squared poverty gap) for mining, non-mining and non-employed households in Rustenburg. Irrespective of the household welfare indicator (per capita income or spending) or the poverty line (lower- or upper-bound), we found that the poverty headcount was the lowest for mining households, followed by non-mining households, while the headcount was the greatest for non-employed households. Lower-bound income and spending poverty headcounts were 5 and 10% for mining households, 25 and 37% for non-mining households, and 47 and 51% for non-employed households; the corresponding upper-bound income and spending poverty headcounts were 10 and 18% for mining households, 32 and 48% for non-mining households, and 63 and 64% for non-employed households. This implies that mining households were by far the least likely to be poor, while non-mining households were much less likely to be poor than non-employed households. Note that the poverty headcounts were greater when using household spending than when using household income, because household average expenditure was lower than average income (see Figure 5.4).

Furthermore, Figure 5.5 also shows that, when using per capita spending as indicator of household welfare, mining households had the lowest poverty gaps and squared poverty gaps, for both poverty lines, followed by non-mining and non-employed households. This implies that, on average, poor mining households lay closer to (less further below) the poverty line than

non-mining and non-employed households. Furthermore, there was less per capita spending inequality below the poverty line among poor mining households than there was among poor non-mining households and poor non-employed households.



Source: Own calculations using data from our Rustenburg household survey, 2018.

Notes: Headcount = poverty headcount (i.e., FGT0), Gap = poverty gap (i.e., FGT1), Squared gap = squared poverty gap (i.e., FGT2). Lower-bound = Stats SA (2018a), lower-bound poverty line = R785 p.m. and upper-bound = Stats SA (2018a), upper-bound poverty line = R1 183 p.m. This figure depicts 95% confidence intervals for the poverty headcount (top row), poverty gap and squared poverty gap (bottom row). For the poverty headcount, the only insignificant difference at the 5% level is between non-employed and non-mining households, using spending and the lower-bound poverty line. For the poverty gap, as well as the squared poverty gap, the only significant differences were between mining and non-mining; and non-employed and mining households (using spending, and for both the lower- and upper-bound poverty lines).

Figure 5.5. Foster–Greer–Thorbecke (FGT) poverty indices for income and spending, for different types of Rustenburg households.

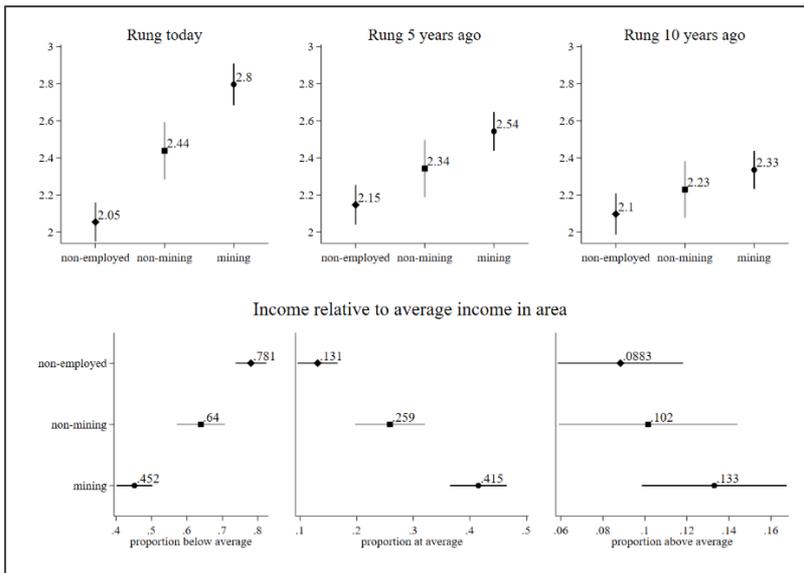
Subjective Income Rankings

We also asked households about where they thought their household lay in the income distribution. Specifically, we asked them to (1) rank their income on a five-point scale, ranging from way below average to way above average, relative to other households in the area where they live, and (2) to place their present and past household incomes -- from five and ten years ago -- on a six-rung ladder relative to other South African households (with six being the highest rung and position in the income distribution).

As Figure 5.6 shows, mining households were much less likely than the other two types of households to believe that their household incomes lay below the average income in their area, and were much more likely to rate their household incomes as being equal to the average of their area. On the other hand, while mining households were the most likely to state that their household incomes lay above the average incomes in their area, these percentages were relatively low for all three household types. About 55% of mining households believed that their household incomes were the same as or above the average of their area, while only about 36% and 22% of non-mining and non-employed households, respectively, believed that their household incomes were the same as or above the average of their area.

Figure 5.6 also shows that mining households placed their current incomes on a higher rung of the South African income distribution ladder than non-mining households, who placed their current incomes on higher rungs than non-employed households. Mining households also placed their past incomes on higher rungs of the South African income distribution ladder than non-mining households, who placed their past incomes on higher rungs than non-employed households.

Both mining and non-mining households believed that their positions on the income distribution ladder improved over time (over, respectively, five- and ten-year horizons), while non-employed households believed that their current position in the distribution was worse than their past positions. This finding is relevant with respect to mining households given the discontent that gave rise to the Marikana protests of 2012 and the drawn-out mineworker strike of 2014.



Source: Own calculations using data from our Rustenburg household survey (2018).

Notes: The top row of this diagram depicts 95% confidence intervals for the rungs of the South African income distribution ladder on which households placed their current (today) and past (5 and 10 years ago) incomes; the bottom row shows 95% confidence intervals for the proportions of households who reported their household incomes lying below, at or above the average income levels in their areas. We plotted the 95% confidence intervals in the top row vertically to facilitate comparisons within and across panels in the top row.

All pairwise differences in mean ladder rung positions (between non-employed and non-mining households; between non-employed and mining households; and between non-mining and mining households) are statistically significant at the 5% level, with two exceptions: differences in mean ladder rung 10 years ago between non-employed and non-mining households, and between non-mining and mining households.

Furthermore, we also use paired t-tests to determine if pairwise differences in mean ladder rung positions differ over time (today and 5 years ago; today and 10 years ago; 5 years ago, and 10 years ago). For non-employed households, the only significant difference was between the mean rungs on which they placed themselves today and 5 years ago; for non-mining households, the only insignificant difference was between the mean rungs on which they placed themselves today and 5 years ago. For mining households, all the differences were statistically significant at the 5% level. No pairwise difference in the proportion of households (non-employed and non-mining; non-employed and mining; non-mining and mining) who ranked their household incomes above the average household incomes in their areas, was statistically significant at the 5% level, while all pairwise differences in the proportions of households who ranked their household incomes below or at the average level of household incomes in their area, were statistically significant at the 5% level.

Figure 5.6. Mean rung of South African income distribution ladder on which different Rustenburg household types believe their income (current and past) lies and different Rustenburg household types' ranking of their household incomes relative to other households in their area.

Reassuringly, these subjective income distribution rankings correspond with the results that we obtained for household income, spending, and asset ownership: mining households are better off than non-mining households, who are better off than non-employed households.

CONCLUSION

In this chapter we used household survey data to compare the labour market outcomes of Rustenburg workers and the household welfare levels of Rustenburg households. While our local case study design did not allow us to draw causal inferences about the effects of mining on labour market outcomes and household welfare in Rustenburg, we found that mineworkers had higher monthly and hourly earnings than non-mineworkers, while they also had more employment benefits. Furthermore, ME mineworkers had higher monthly and hourly earnings than CE mineworkers.

We also found that mining households had higher levels of household welfare than other households; they had higher levels of household income and spending, owned more assets, and had access to more public services. While mining households had the highest household welfare levels, non-mining households had higher levels of household welfare than non-employed households. Finally, we found that mining households placed themselves further up the income distribution than non-mining households, who placed themselves further up the income distribution than non-employed households. These results correspond with results obtained by Burger and Geldenhuys (2018) for the iron ore mining town of Postmasburg and by Geldenhuys and Burger (forthcoming) for the coal mining town of Emalahleni.

In future work we could also consider investigating the differences in labour market outcomes between workers with different occupations, particularly between different types of workers at mines -- those performing core mining functions (such as drillers, blasters and engineers), and those performing supporting functions (such as security guards, cleaners, human resource officers and transporters).

Our main findings were not surprising: in a town whose economy is dominated by platinum mining, mineworkers had higher earnings than other workers and mining households had higher levels of household welfare than other households. The magnitude of the observed differences in workers' earnings and household welfare levels were in line with the differences reported by Burger and Geldenhuys (2018) and Geldenhuys and Burger (forthcoming) for two other mining towns in two other South African provinces. These large differences in earnings and welfare levels also underscored the extent of economic inequalities in South African mining towns in particular, and in South Africa in general.

The early and mid-2010s witnessed the Marikana massacre and the longest mineworker strike in South African history. Wage levels were a major, if not the most important, point of contention, with workers complaining about low wage levels. The evolution of the subjective income rankings we measured for the decade preceding the survey, showed that mineworkers perceived their incomes to have improved, relative to that of other workers. Although this is a relative and not an absolute measure, it pointed to mines having gone some way to address the major grievances expressed in 2012 and 2014. This was further borne out by net monthly wages of R12 967 and R8 965 we reported for ME and CE mineworkers, compared to the R4 000–R5 000 wage range at the time of the Marikana protests, reported by Alexander (2013) in his interviews with mineworkers shortly after these protests. With consumer prices in 2018 only 37.5% higher than in 2012 (Stats SA 2020), average wage levels of R12 967 and R8 965 in 2018 were nevertheless between two and three times as high as the R4 000 and R5 000 Alexander reported. That, again, points to improvement.

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Chapter 6

**PERCEPTIONS ON THE IMPACT
OF EXTRACTIVE INDUSTRIES ON LOCAL
GOVERNMENT: THE CASE OF RUSTENBURG**

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ABSTRACT

Perceptions of the Impact of Extractive Industries on Local Government: The Case of the Rustenburg Mining Town in South Africa shows that, ironically, an ample supply of natural resources can have a negative effect. Resource-rich countries are not necessarily advantaged, as the “Dutch disease” and “resource curse” theories have shown. Normalisation and the creation of open towns mean that local governments need to provide and maintain public services. Recent literature on the impact of extractive industries finds a correlation between poorly governed countries with abundant mineral resources and unsustainable spending patterns. Research in this field has been mostly at the national government level; this chapter focuses on local government. A study using

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documentation and interviews compared service delivery in Rustenburg with two other mining towns in South Africa. Stakeholders in all three towns were dissatisfied. Service delivery in South Africa is now constitutionally the responsibility of local government, not the mines, but many stakeholders still expect the mines to deal with it. The chapter provides perspectives on the Rustenburg municipality's strengths and weaknesses and the challenges it is facing.

Keywords: extractive industries, local government, mining towns

INTRODUCTION

One would assume that countries well-endowed with oil, gas and minerals are advantaged, but this is apparently not quite the case, according to theories such as the “Dutch disease” (The Economist 1977) and the “resource curse” (Karl 1997). The “Dutch disease” occurs when an increase in export revenues of extractives results in economic dependence on a primary sector, whereas the “resource curse” theory shows a positive correlation between ample supplies of natural resources and poor economic performance. Likewise, the “paradox of plenty” refers to unsustainable development that depends on exhaustible resources such as fossil fuels. Internationally, there is an observation that abundance leads to unsustainable spending, especially in poorly governed countries. However, good governance and the absence of corruption are viewed as key to an increase in development.

The South African government, having been the custodian of all mineral rights since 2004, introduced social and labour plans (SLPs) to transform the mining industry. The purpose of SLPs is to address mining-associated problems, such as a shortage of bulk infrastructure and efficient human resources at local government. To address these challenges, spatial planners, who should also have the public's best interests at heart, should continue to strive to achieve places of quality.

Since South Africa is a country with plentiful supplies of mineral resources and apparently weak local governance of mining towns (Drewes

and Campbell 2018), this chapter reflects on the perspectives of the stakeholders on the impact of extractive industries on service delivery in their mining towns and who they expect to address the prevailing challenges. As the resource curse is often investigated at national level while local governments are being neglected (Obeng-Odoom 2014), the study focused on how local governmental service delivery is experienced in three mining towns in South Africa, with a special focus on Rustenburg. The chapter commences with a brief overview of perspectives on extractive industries and governance. Questions addressed in the overview mainly relate to the following: Are large reserves of mineral resources indeed regarded as a disadvantage which leads to challenges for local governments, spatial planning and service delivery? Can it be expected of mining companies to provide municipal services to the “affected” communities, based on the fact that the mines were responsible for the migration to the mining towns, which resulted in a greater demand for services?

PERSPECTIVES ON EXTRACTIVE INDUSTRIES AND GOVERNANCE

In South Africa, as in other parts of the world, there has always been a relationship of some kind between mining companies and the settlements where their employees live. Between the First World War and the mid-eighties, mining companies favoured company towns. These towns were developed and managed by the mining companies. Mines wanted to provide the best possible living conditions to their employees and the mining industry directly provided housing and services. From the mid-eighties, companies started to transfer their houses to individual households and the management of the towns to democratically elected councils – a process commonly known as normalisation or the establishment of open towns. This change followed criticism on mines performing public functions and shareholders questioning why companies should spend money on peripheral aspects such as housing and urban management. By 2002, the mining

industry in South Africa endorsed normalisation (International Institute for Environment and Development [IIED] 2002). Normalisation was also further supported by collaborative planning. The notion of collaborative planning underlined the interdependencies between mines and local governments. Under the principles embedded in normalisation, mines are deeply dependent on public services to provide adequate living environments.

For stakeholders to be satisfied with the living conditions in a town, the quality of a place should be acceptable to them. Dissatisfaction is often the result of local government not being able to meet the infrastructure needs of the growing population (Marais and Ntema 2018). Haslam McKenzie (2013) gave an example where some members of a mining town community in Australia were excited about the expected opportunities of the mining industry during the mining boom. Although many members of the community were sceptical, some members of the Onslow community saw an opportunity in the envisaged opening of the gas mines. They wanted to benefit from the increase in population and infrastructure associated with the opening of new mines to such an extent that it would contribute to long-term sustainability. Right from the start the determined community collaborated with the government and mining representatives to plan for long-term benefits and to avoid the negative consequences of increased growth and inadequate infrastructure. In exemplary fashion, the mining company willingly collaborated with the community and the government to set agreed upon goals with the aim of reaching social, economic and environmental sustainability.

Enhancing the quality of a place is not solely the responsibility of the local authority and a collective attempt (collaborative planning) should therefore be followed (Healy 2010). Healy (1998) questioned the capacity of governments to address this challenge of “places of quality” which brings us to the involvement of large mining companies. Mining companies should not ignore the development of local places while pursuing profits. Large companies should emphasise liveability, while spatial planning has obligations towards current and future quality places (Healy 2010). Spatial planning should be an interactive process which results in improved qualities

of places (Healy 1997). The issue remains on how to achieve such ideals. Almost 60 years ago, Lynch (1961) had already asked the question: What can the planners do to make the image of the city more memorable to the stakeholders? The answer seems to be that once all the stakeholders have identified both conflicting and common interests, indivisible goods such as clean air and unpolluted water, should be prioritised. However, local governments seem to struggle to address the infrastructure and service delivery challenges resulting from mining booms (Ngeni 2014).

To answer the question posed in the introduction, of whether it can be expected of mining companies to provide municipal services to the “affected” communities, the president of the Minerals Council South Africa (MCSA 2019) confirmed the obvious namely that mining companies are not local governments. In the discussions on the responsibilities of mining companies, some issues were raised about where the responsibility of the mining company stops and where the responsibility of the local government begins (Cheshire, Everingham and Lawrence 2014). Mining companies can certainly be valuable partners for local governments, in particular in terms of collaborative planning. Collaborative governance is one of the identified resilience principles of the CSIR (2019, 49) who also stated that good governance was underlying to the “appropriation of benefits from mining.”

The independent commission of the World Bank’s Extractive Industries Review, as quoted by Dietsche (2018), emphasised that governance matters and recommended that financial institutions should not support extractive resource projects if producer countries did not have good governance in place. Dietsche (2018, 134) also argued that there should be institutional constraints in place to prevent “self-interested individuals from using resource rents for personal gain.”

Despite acknowledging the importance of collaborative governance and planning, the relationship between the mining sector and local government remains challenging. There is little clarity on the boundaries of responsibilities between local governments and those of the mines. Mines have a role to play, but collaboration and partnerships are important. This chapter reports on an investigation into some of the continuing problems as

described by a range of stakeholders from Rustenburg and two other mining towns in South Africa.

METHODS

A qualitative study was undertaken to discover themes in stakeholder meanings (McMillan and Schumacher 2010). The case study focused on Rustenburg, a platinum mining town. For comparative reasons, similar case studies were undertaken in two other mining towns, namely Postmasburg, an iron ore mining town, and eMalahleni, a coal mining town. Data collection consisted of a document analysis and in-depth interviews. Official policy papers such as the spatial planning frameworks and plans of local government were reviewed.

The sample of key stakeholders for the in-depth interviews was purposefully selected to include participants that represented a wide variety in stakeholder interest. There was also some snowball sampling. The stakeholders comprised officials employed by mining companies, officials in different spheres of government, engineers in the private sector, spatial planning consultants, businesspeople, non-governmental organisations (NGOs) and members of civil society. For this study, an interdisciplinary research team of the University of the Free State conducted 25 such interviews in Rustenburg, 28 interviews in Postmasburg and 26 in eMalahleni. The purpose was to gain perceptions on local government responses to the pressures of mining activities in service delivery in Rustenburg and how these perceptions compare with those in the other two towns. The interviews in Rustenburg were completed towards the end of 2018 and in April of 2019.

The interviews centred around the following key issues:

1. Stakeholders' perceptions on local governance and municipal services.
2. Stakeholders' perceptions on integrated development and spatial planning.
3. Stakeholders' perceptions on the responsibilities of the mines.

FINDINGS AND DISCUSSION

This section commences with some necessary details about mining in Rustenburg and the current relationship between mining, municipality and community. Similar detail for the other two towns is provided. This background information is followed by the reporting and discussion of stakeholder responses to the three major aspects covered in the interviews. In each case the findings in Rustenburg are compared with those in the other two towns.

Contextual Background

Although the Rustenburg platinum mines creates well-paid employment in a country with a soaring unemployment rate, South Africa is also a country that is impacted by the negative aspects of mining. Rustenburg is remembered for the infamous Lonmin Platinum Mine labour unrest at the Marikana mine, which led to the killing of 34 mineworkers in 2012 (Sorenson 2012). The Marikana incident, which was a dispute concerning living conditions and an increase in payment, occurring after the semi-skilled miners demanded a salary of R12,500 per month, is a reminder that mining has local consequences. The Marikana massacre was still fresh in the minds of the interviewees and most of them alluded to the incident. Subsequent to this event, a structure was put in place for the community to liaise with the mines through their community representative. An interviewee employed at the Royal Bafokeng Platinum mine reported a good stakeholder relationship between this mine and the municipality and also a friendly relationship between this mine and the communities, along with monthly stakeholder engagement meetings. But what was the situation in the other two towns?

In Postmasburg, the Tsassamba Committee was formed as a coordinating committee to assist in infrastructure and land development to provide accommodation to the mining employees of the two largest mines in the local municipal area, since the Tsantsabane Local Municipality was

challenged by the provision of bulk infrastructure. The mines were concerned that the municipality did not have enough capable human resources to deal with the pressure created by mining in the area. As a result of these concerns, the Tsassamba Committee was established in 2010 between the Tsantsabane Local Municipality, Kolomela Mine, which is a Kumba Iron Ore mine and Beeshoek Mine (which is an Assmang Proprietary Limited mine). This was largely a technical forum which included a spatial planner, municipal officials and mining employees (Drewes and Campbell 2018). Unfortunately, no members of either the business chamber or civil society organisations were involved (a shortcoming identified in the study). The majority of funds came from the mining companies, although some contributions also originated from national government. A thorough needs assessment was conducted by the Tsassamba Committee focusing on the immediate need for bulk infrastructure. It was within this context of the need for partnership that a hybrid model of governance was established. In the following three subsections, this chapter also critically assesses the successes and failures of the Tsassamba Committee in Postmasburg, as perceived by the stakeholders. This assessment provides valuable perspectives that illuminate the shortcomings and challenges in Rustenburg.

The town of eMalahleni, previously known as Witbank, was established in 1903 by the Witbank Colliery Limited and named after the ridge of prominent white quartz near the present railway station. Transporters with their wagons would stop at this white ridge which, over time, evolved into a trading post (eMalahleni Local Municipality n.d.). The town was renamed eMalahleni, meaning ‘place of coal,’ in 2006. eMalahleni has far outpaced its ability to provide basic services and housing. In addition, the town suffers from severe water and air pollution problems, which lead to health problems. These troubles are compounded by the municipality’s internal governance problems. It thus appears that while the town was booming, it largely happened in the absence of municipal management and guidance (Campbell, Nel and Mpambukeli 2016). In eMalahleni, the political environment is further complicated by role players from mining companies, trade unions and accompanying mining legislation to which they are bound, namely the

Mining Charter, the Mining and Petroleum Resources Development Act, and social and labour plan responsibilities.

Stakeholders' Perceptions on Local Governance and Municipal Services

The responses to the key questions stated earlier are presented and discussed per question in the following subsections. Each subsection will also include relevant background information and other perspectives gained during the analysis of relevant documentation. The findings from the case study in Rustenburg are followed by comparative perspectives from the other two case studies.

Rustenburg

In Rustenburg, the responses of NGO councillors at a crisis centre implied that the Rustenburg Local Municipality (RLM) is arguably the most reviled entity in Rustenburg because “they do not do much.” Some of the councillors mentioned that the local newspapers had reported on mismanagement of municipal funds and incompetent service delivery. A consulting town planner was of the opinion that the municipality was generally viewed as corrupt and that the mines “do whatever they want to do,” which is a frustrating situation, especially for developers. A small business owner was complaining about “corruption at the municipality” where certain rights were seemingly allocated in exchange for bribes. A community member told that he wrote on behalf of the community to the Sibanye mine, one of nine mines in the area, requesting assistance in addressing the corrupt municipality, but was advised to contact his municipal councillor as an intermediary.

To improve communication, a mining producers’ forum for the local municipalities was established within the same district municipality, but it was not functioning at the time. In addition, the Royal Bafokeng Nation (RBN) reported that they have established a ratepayers’ forum over fifteen years ago to address infrastructure and planning issues. However, the mines

seemingly “did not want to collaborate” and only sent observers to attend. The municipal planners complained that the mines did not share their plans with the municipality although the municipality was trying to get the mines on board of the Spatial Development Forum process via the Business Chamber and the executive mayor’s mining forum. An official at Lanxess mine confirmed that there was no communication with the municipality; they only made contact with the RBN regarding community development but that there were no other formal communication channels. He also mentioned that since the Department of Mineral Resources had approved the SLPs, the mines had been more concerned about satisfying the Department “than anyone else.”

A representative of the Royal Bafokeng platinum mine reported that they communicated mostly with the four smaller communities nearest to them. They have monthly meetings with the traditional leaders of these communities, the traditional councillor and the municipal council. He expressed their willingness to share their plans with the municipality. He also added that public participation occurred through the environmental impact assessment process.

The consulting town planners felt that the RBN was actually functioning effectively as a municipal administration. The general feeling was that the RBN had successfully addressed the development of old villages, in addition to the matters of densification and increased access to water and electricity. However, a representative of the RBN felt that their relationship with the municipality was challenging and that they would only contact the municipal council if it was really necessary. He further explained that the RBN had their own planning department and that they were very protective of their land. They were concerned that the municipality might issue title deeds on their land if they would allow the municipality to upgrade informal settlements on their land; therefore, no land use management was done on RBN land.

Another consulting planner felt that the municipality “lacks capacity.” He also felt that access to Rustenburg should be addressed, while the roads also needed upgrading. According to him, the municipality “hampers development through inability and their failure to act.” Major concerns in

Rustenburg were the local government being burdened by the additional responsibilities which come with the mines, the relationship with the mines, insufficient communication between all the role players and expectations that the mines should address the infrastructure and service delivery challenges of the town. Rustenburg was compared to the other two case studies to see what can be learnt from the other towns that can either warn Rustenburg of the consequences or indicate pathways that should be investigated or followed for addressing some of the challenges they are experiencing.

From another angle, a Rustenburg municipal councillor referred to the influx of immigrants from Mozambique, whom they did not consider as part of their community. A traditional leader referred to immigrants from Lesotho, Zimbabwe and Mozambique, and even from China, stating that this put a burden of additional demand on existing municipal services. According to a town planning consultant, the community believed that they had the right to work at the mines and they therefore found the immigrants, even skilled immigrants, unacceptable. This led to much conflict in the town.

The question arose as whether the other two towns have been experiencing similar problems and, in particular, whether the existence and operations of the Tsassamba Committee in Postmasburg would suggest a way in which the challenges regarding municipal infrastructure in Rustenburg could be addressed in future.

Postmasburg and eMalahleni

The findings from the in-depth interviews in Postmasburg suggested that the mining companies in general were positive about the Tsassamba Committee. In contrast to these positive remarks, some critical observations were communicated. Concerns were expressed by some spatial planners about the sustainability of the projects. The transfer of the developments for maintenance and operations to the municipality created new challenges for the municipality. An example is the new housing developments which were transferred to the municipality, which was seemingly a serious concern of the interviewees, given the lack of human capacity at the municipality to handle the additional task burdens in service delivery. This probably

indicated that the mines dominated the process and did not help to create the capacity to deal with the long-term implications of these developments. The focus of the mining companies was apparently not on the operation and maintenance of services after completion of the infrastructure, while the municipality also did not appoint any additional capacity to cope with the much larger scope of engineering services.

As in Rustenburg, interviewees from the business sector, as well as the government sector in Postmasburg, expressed concerns about the maintenance of the infrastructure and specific concerns related to supply of water and the maintenance of water pumps. Further concerns were expressed about the (in)ability of the Tsantsabane Local Municipality to deal with the pressing issues. The lack of sound financial systems, mainly due to the absence of a chief financial officer at the municipality and the ability to send out bills, were also raised during interviews with stakeholders from the private sector. Such concerns seemed to prevail despite the fact that the income for the municipality from property tax on these housing developments has increased rapidly.

As was evident from the qualitative investigation, the operation and maintenance of engineering services were perceived and described as challenging. This challenge was also reflected in the minutes of the Tsassamba meetings where there was apparently pressure on the mining houses to finance the operation and maintenance of the installed engineering services. In terms of the Mineral and Petroleum Resources Development Act (South Africa 2002), a mining company receives no credit for community development initiatives in terms of operational and maintenance components of infrastructure. Subsequently, the mining companies were reluctant to finance the upkeep of services and this eventually played a major role in the irregular functioning of the Tsassamba Committee, with the issue of maintenance remaining unresolved.

As mentioned previously, the Tsassamba Committee represented an example of collaborative work, also to Rustenburg. However, the long-term viability of the committee seemed to be under pressure. Since the committee was established, several management and political positions changed in the municipality. For example, the documentation revealed that a municipal

manager closely connected to the Tsassamba Committee were replaced and transferred to another municipality in the Northern Cape province. It therefore became increasingly difficult to get the municipal representatives to attend the monthly meetings. Consequently, it was virtually impossible to make formal decisions (Tsassamba Committee 2015). Fortunately, the bulk of infrastructure projects had been completed and handed over to the municipality. An interviewee noted that service provision was functional for the existing town as well as all the new developments.

It was evident that the long-term maintenance associated with this infrastructure was handed over to the municipality after the construction phases. There is no doubt that Rustenburg could benefit from a forum similar to the example of the Tsassamba Committee. However, in light of all the concerns and negative perceptions revealed during the interviews, Rustenburg should first overcome several challenges, such as getting all the role players – the RBN, the mines, the municipality and the residents – to agree to collaborate.

The interviews in eMalahleni revealed similar problems and concerns as in Rustenburg, although the context and origin of the problems differed to an extent. Six years ago, it was officially stated that eMalahleni was unable to provide basic services to its increasing population due to the growth in the mining sector (South African Government Information 2013). In comparison, it seemed that all three local governments struggled under the additional responsibilities which came with the mines. For Rustenburg, the biggest challenge seemed to be communication, something which Postmasburg seemed to have addressed successfully. However, the residents of eMalahleni suffered from an additional burden, namely pollution.

Stakeholders' Perceptions on Integrated Development and Spatial Planning

Rustenburg

An intergovernmental relations manager at the office of the executive mayor in Rustenburg said that she liaised with the community and the mines.

She was of the opinion that the local community should benefit from the mines in their region and that the mines should work with the identified needs which were facilitated in a public participation process from the community and stipulated in the IDP of the municipality. She mentioned that she had called on each of the nine mines to report on their progress regarding their targets, as in their SLPs, and to indicate to her what actions have been taken for the benefit of the community. This is a clear indication that this person regarded integrated development as a priority. The mining industry, however, seemed to experience particular challenges in this regard. According to the two interviewees of the chrome mine, which is on land leased from the RBN, the challenge was that the RBN has its own “municipality” within the boundaries of the Rustenburg local government, with its own administration department that complicated matters of integrated planning and development. Notwithstanding the existence of possible challenges, an interviewee at the Royal Bafokeng Platinum mine felt that the Royal Bafokeng administers a well-organised government. This interviewee stated that Royal Bafokeng Platinum has spent funds on a local school where they appointed Mathematics and Science teachers, as well as refurbishment of a science laboratory and replacing equipment in the computer laboratory.

Thus, as indicated in the section on local governance and service delivery, a challenge for Rustenburg seemed to be those mines which did not collaborate with the local government and therefore did not assist in addressing the prioritised challenges of the IDP. In addition, the interviewees at the Lanxess chrome mine reported that the RBN had its own version of an IDP and expected Rustenburg to align with their IDP.

Postmasburg and eMalahleni

Critical comments were made about spatial planning in Postmasburg. A spatial planner with experience at different government levels, pointed out that the Postmasburg municipal council made spatial planning decisions in an *ad hoc* and unsynchronised manner. This could likely be ascribed to the immediate and pressing need of the mining companies to provide housing for their employees. The planner added that public participation was also a

challenge and he doubted whether residents were fully informed of the current circumstances in Postmasburg. However, this person acknowledged the fact that the municipality owned most of the well-located land and it facilitated the spatial planning associated with the role of the Tsassamba Committee.

The transnational Maputo Development Corridor (MDC) stretches along the toll road from Tshwane in the Gauteng province, which is the heart of the South African economy, through eMalaheni in the Mpumalanga province to the Maputo harbour in Mozambique. The corridor was constructed with the objective of investment in transport infrastructure to create an enabling environment for economic growth and development (Campbell and Hauptfleisch 2012). To implement the MDC project, in cooperation with a private sector partner, namely Trans African Concessions (TRAC) (Pty) Ltd, an agreement was reached between the South African government and the government of Mozambique. Research on the area along the MDC showed that businesses close to the MDC developed more rapidly than businesses further away from the MDC (Campbell and Hauptfleisch 2012). One of the municipal officials in the spatial planning department indicated that at the time of the interviews, no new land use applications could be approved due to the challenge of service provision, presenting a great obstacle to new developments.

Although the Rustenburg municipality regarded their IDP as a priority, the RBN seemed to have had their “own form of IDP,” according to a mining interviewee. Hence, while one of the interviewees identified public participation as a challenge for Postmasburg, participation of the mines was identified as a challenge for Rustenburg.

Stakeholders’ Perceptions on the Responsibility of the Mines

Two municipal councillors interviewed in Rustenburg, were of the opinion that the mines were under financial strain due to the high costs of shaft sinking. In addition, the mines had to invest a great deal towards their SLP compliance in order to maintain their mining licences, but the funds

were allocated in an *ad hoc* manner. In agreement with the reply of the intergovernmental relations manager in the office of the executive mayor, the councillors also reported that the spending of the mines did not target the priorities identified in the municipal IDP and was therefore ineffective. However, a retired human resources manager on the mine mentioned that Impala Platinum Mine was commended for their spending on housing for mineworkers. Two interviewees from the Lanxess chrome mine gave the following examples of the mines' expenditure of their SLP fund: purchasing of machines for training of workers; renovation of a school to be used as a factory where community members are taught skills to enable them to become service providers; construction of a sizeable library that will be overseen by the mine; and a clinic that will be managed by the province under the guidance of a doctor of the RBN. The interviewees also reported the lack of communication between this chrome mine and the local municipality and that the mine's engagement seemed to be confined to the RBN. This is clear when the particulars listed above were compared to and not to be found in the Rustenburg IDP, which aimed to construct a university, build an international convention centre, establish a fresh produce market as well as an industrial park.

It thus seems that although the Rustenburg mines have invested towards their SLP compliance, the funds were allocated in an *ad hoc* manner. The spending of the mines did not target the priorities identified in the municipal IDP and was therefore regarded as ineffective. Furthermore, an interviewee was of the opinion that the local community should benefit from the mines in their region and suggested that the mines should work with the identified needs of the community as prioritised in the IDP.

Postmasburg and eMalahleni

The funding of the various projects is a way in which mining companies can be seen as actively participating in local development. For the mining companies it is a way of fulfilling their responsibilities in terms of the Mining Charter and helps them retain their mining license (South Africa 2002). The need for collaboration was a direct consequence because of a gap that was created as result of the incapacity of the local municipality. The

interviewees emphasised the importance of the Tsassamba Committee which existence was perceived as an enabling structure that has facilitated the successful cooperation between the municipality and the mines to provide and develop infrastructure. One interviewee who was a local businessman in Postmasburg, emphasised that the committee also facilitated the free flow of information and held regular meetings. A municipal councillor, who was also a local businessperson, expressed his praise for those involved in maintaining the infrastructure, despite shortcomings. He also commended the Tsassamba Committee's commitment to problem solving and working towards solutions.

Interviewees involved in the Postmasburg mines were concerned that the municipality could not address the service delivery pressures which resulted from mining operations in the area. Therefore, the mines took the responsibility and established a technical tripartite forum (the Tsassamba Committee) to address these challenges. Although the mining, business and municipal interviewees were positive about the impact of the committee, the planners were concerned about the sustainability of the projects meetings. A municipal councillor, who is also a local businessperson, expressed his praise for those involved in maintaining the infrastructure, despite shortcomings. He also commended the Tsassamba Committee's commitment to problem solving and working towards solutions.

When the participants at eMalahleni were asked about the impact of the mines, all of them criticised the mines for "not doing enough" and yet they were still putting their trust in the mines to find solutions to service delivery challenges. An interviewee, who is one of the town planners, shared that one of the mines built a community hall without consulting with the community. The community development worker interviewed, suggested that the mine should have rather built a much-needed clinic or a school. According to the participants from the community and the municipality, there seemed to be no communication between the mines and the community, but the home carer who was interviewed, said that there was an eMalahleni NGO forum. A manager at the municipality suggested that mining companies should aim for improved communication and transparency. He continued that once they had their mining license, there was very little further exchange with the

municipality. An example, according to one of the interviewed planners, was that the mines neither communicate nor advertise vacancies, therefore community members would sit for days at the entrances to the mines waiting for employment opportunities.

The majority of the stakeholders, including the planners, a ward councillor and NGO workers at eMalahleni, suggested that the mines should invest in the upgrading of municipal infrastructure and assist with the supply of bulk services. A municipal manager in spatial planning described the main issue as being that “the mining companies are not contributing as they should”. He continued that the mines’ position was that they undertook what was expected in terms of their SLPs. He also reported that the municipality could not keep up with servicing the continuously growing town and that the municipality “wouldn’t be struggling if they [the mines] helped.”

At eMalahleni, the extractive industries impacted on the municipality’s ability to deliver basic services to such an extent that it was officially stated that eMalahleni was unable to provide basic services to its increasing population due to the growth in the mining sector. It has been established that new land use applications could not be approved due to the service delivery challenges. The majority of the interviewees suggested that the mines should invest in the upgrading of municipal infrastructure and assist with the supply of bulk services. Thus, as in Rustenburg, interviewees from Postmasburg and eMalahleni also relied on the mines to assist with service delivery although it was supposed to be the responsibility of the local government.

CONCLUSION

The literature alluded that countries well-endowed with natural resources may be disadvantaged by the impact of rapid growth on local governments during the mining boom, as these entities seemed to struggle to address the challenges which resulted from the boom. The study reported in this chapter therefore examined whether large reserves of mineral resources are indeed a handicap leading to challenges of governance on a

local level, as indicated in theories such as the “Dutch disease,” the “resource curse” and the “paradox of plenty.” The literature also alluded that mining companies should not ignore the development of surrounding environments while pursuing profits and are expected to emphasise liveability.

A lesson to be learnt from the literature on Onslow, the Australian mining town, is that the community collaborated with the government and the mines to achieve their mutually agreed upon goals for their mining town.

The aim of the investigation was to gain perspectives on the impact that mining has on local government and service delivery in three South African mining towns, with a special focus on Rustenburg. While the interviewees in Rustenburg did not shy away from labelling the municipality as inefficient, the Postmasburg case of the tripartite Tsassamba Committee is evidence that mining companies can certainly be valuable partners for local governments. Nevertheless, good governance and the absence of corruption are still viewed as key to an increase in development.

What was learned from the case study in Rustenburg – and confirmed in the other two case studies – was that, although the stakeholders were critical of the mines, they still had expectations of the mines to assist the community in resolving their challenges and to provide the basic services which were lacking, even though service provision is an objective of local government. The stakeholders held the coal mines responsible for the air pollution in eMalahleni, along with the detrimental health consequences. Additionally, they saw the presence of the mines in their towns as the reason for an influx of migrants in search of opportunities, which also contributed towards the overload on the already old and dilapidated service infrastructures. Most of the interviewees criticised the mines for their SLPs, which they only regarded as a way for mining companies to fulfil their responsibilities in terms of the Mining Charter and which help them to retain their mining license. In general, the interviewees felt that the SLP spending of the mining companies should address the priorities for development and spending listed in the local IDPs, which are determined through a public participation process.

The building of a community hall in Rustenburg is an example of a building constructed without consulting with the community, and the stakeholders responded that the mine should rather have built a much-needed clinic or a school. In addition, infrastructure consequently created was also not identified by the community as a need. Therefore, as a stakeholder suggested, the mines should rather invest in the upgrading of municipal infrastructure and assisting with the supply of bulk services. It is important to note that mining companies receive no credit in terms of the SLPs for community development initiatives in terms of operational and maintenance components of bulk infrastructure. It became evident, however, that the mines are expected to work with or make a contribution towards the identified needs of the community which have been facilitated by the community in a public participation process and stipulated in the IDP of the municipality.

The experience with the Tsassamba Committee in Postmasburg holds some lessons for other municipalities who consider the use of a coordination committee of social partners to deliver infrastructure. Most rural and small municipalities in South Africa struggle to survive financially and new developments of even basic services suffer as a result. Collaboration at local government level provides the country with a viable alternative management and development model, supported by success stories and best practices globally.

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Chapter 7

**MINE HOUSING, ASSETS AND INFORMALITY
IN RUSTENBURG:
IMPLICATIONS OF MINE CLOSURE**

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ABSTRACT

Mine Housing, Assets and Informality in Rustenburg: Implications of Mine Closure builds on two themes from previous chapters: mine closure and inequalities. By the early 1990s, mining companies had stopped providing housing. Instead, the mines started paying a “clean wage,” which

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enabled employees to provide housing for themselves. This approach had unintended consequences, such as the growth of informal settlements, urban sprawl and poor access to services. The chapter investigates how mining policy and local government responses have created housing and service delivery problems in Rustenburg. It pays particular attention to the reasons for informal settlement development, fragmented planning and service delivery problems as experienced by residents.

Keywords: assets, housing, informality, mine closure, migration

INTRODUCTION

The Marikana massacre in 2012, in which 34 mineworkers died, was a watershed in the history of mineworker relations with mining companies. The mineworkers' wages were central to the dispute, but dissatisfaction with their general living conditions contributed. Over the past three decades, the South African mining industry has relinquished its historical responsibility for housing its workers and dismantled the compound system in accordance with government policy. Mining companies normalised many company towns across South Africa and no new company towns developed. Mine-provided housing made way for an increase in wages and living-out allowances – a process supported by the government and the unions. Homeownership became the primary mechanism to create stability in distressed mining towns and prevent another Marikana.

As mining companies dismantled the compounds from the early 1990s, mineworkers made their own housing choices. However, the housing outcomes from this approach have not always been adequate. Research points to mineworkers' living conditions being inadequate, with those of contract workers being the worst (Bezuidenhout and Buhlungu 2011; Marais and Venter 2006). Informal housing developed near the mines on traditional land, where land-use regulations are less stringent. The settlements on land near the mines contribute to urban sprawl and settlement patterns that the municipality cannot sustain (Marais, Denoon-Stevens and Cloete 2020; Ntema 2019). The government's response has been to implement the

Strategy for the revitalisation of distressed mining towns (Tshangana 2015) and to publish the *Housing and living conditions standard for the mining industry* (South Africa, Department of Mineral Resources 2019). Although the latter takes a more nuanced approach to tenure in mine housing, the emphasis on homeownership remains prominent. There is no evidence that either of these policy attempts have addressed the mine housing problem successfully. Many communities blame the mining industry for the situation, but the question is whether other factors contribute to the housing problems.

Our particular concern is that the policy that focuses on homeownership and housing as an asset, intended to promote stability, does not consider the risk of mine decline or closure and the persistence of migrant labour in the mining industry (Marais 2018). The focus on creating housing assets in South African policy received renewed emphasis when the government accepted a revised housing policy, *Breaking New Ground*, in 2002 (International Institute for Environment and Development [IIED] 2002). This policy emphasised the importance of housing becoming property, but if that is to produce stability, long-term economic stability is also required.

Against this background, this chapter asks what mine closure implies for the housing situation in Rustenburg and the government's current policy. The chapter uses data from our 2018 survey and Stats SA census and household survey data to describe and analyse the situation. We challenge the policy that promotes homeownership as the primary way to solve the housing problem. In analysing our data, we distinguish between the following household categories:

- Mineworker household. This is one in which at least one person works in the mining industry. We distinguish between permanent employees and contract workers.
- Non-mineworker household. This is one in which no members work in the mining industry.
- Bafokeng household. These households occupy land managed by the Royal Bafokeng Nation, which has various mining and other interests and provides municipal services to these households, by agreement with the Rustenburg Municipality. Manson and Mbenga

(2014) provided an excellent historical overview of how the Royal Bafokeng Nation acquired its wealth, so we do not repeat it here. We include these households for comparison with the other two categories and to see to what degree they have benefited from mining in the area.

HOUSING, ASSETS AND MINE HOUSING

Increasingly, governments view housing as a household asset that should help to provide long-term welfare. Asset-based welfare has become a common approach to get households to take responsibility for their housing situation and reduce the government's role in housing delivery. Asset-building programmes in the US encourage middle-income households to acquire homeownership, improve their education and bolster savings (Sherraden 1991). These programmes have had some success, but the Global Financial Crises of 2008 hampered progress. The basic assumption in asset-based welfare is that helping the poor spend more is unlikely to help them out of poverty (Sherraden 2001). Welfare programmes should instead help them create assets such as housing, savings and education. Moser (2007, 9) defined assets as the "stock of financial, human, natural or social resources that can be acquired, developed, improved and transferred across generations." Assets can be tangible or intangible. Moser (2007) identified five kinds of assets: natural (land, water), physical (equipment, housing), financial (savings, credit, investments in health), social (networks and institutions) and human (education). Sometimes researchers add spiritual and cultural assets. In practice, the notion of asset-based welfare has resulted in asset-based welfare programmes in the US and UK, some governments relinquishing their role in housing, and a range of land titling programmes in the Global South. The simplistic way governments set up those programmes has been criticised (see for example Gilbert 2002). Moser (2007) emphasised the importance of housing in creating household stability for households who urbanise. Once an urbanising household obtains a house or stand, rented or owned, its members can search for employment or take

up education possibilities. The creation of assets also has intergenerational value, with second generations usually being better off than the first.

South Africa has accepted the principle of asset-based development in its housing policy. The post-apartheid focus on homeownership is proof of this approach. Since 2004, when the government accepted *Breaking New Ground*, the notion of property and moving up or down the property ladder has also been prominent. The initial approach to mine housing also focused on housing assets. Compared to the historical approach to mine housing (up to the mid-1980s), the focus on homeownership is new. Historically, most mineworkers were provided with housing by the mines. Black mineworkers lived in compounds and most white mineworkers received company housing. When the government abolished influx control in the mid-1980s, homeownership became available to black people. This policy change also made it possible for the mining industry to provide homeownership. Some of the first experiments with homeownership were in the Free State Goldfields. But by 1991 the first retrenchments had begun in the area, leaving many mineworker households with mortgaged houses they could not afford. They were also unable to sell these assets in the market as the economic collapse associated with mine closure had killed the demand. The result was a large percentage of properties in possession and the redlining of parts of the Free State Goldfields by the banks (Marais 2013).

The post-apartheid state (since 1994) has largely continued on the path started in the mid-1980s. It was the inhumane nature of compound living that received the most criticism. The promulgation of the Mineral and Petroleum Resources Development Act, Act 28 of 2002, provided the government with a legal basis to push for the closure of mining compounds still in operation. Three main developments drove post-apartheid mine housing: the government put pressure on the mining companies to close the compounds, a living-out allowance was introduced, the companies sold off many of the houses they owned, and the company towns were normalised or closed. The closure of the compounds went hand-in-hand with the living-out allowance (actively promoted by the unions), which was intended to give mainly black mineworkers the financial means to access decent housing. However, this did not always happen in practice, as many decided to live in

informal housing or could not access formal housing (Marais and Venter 2006). The housing situation also changed for white mineworkers. No longer assured of a company house to rent, they had to find their own housing. Since the early 1990s, the previously mine-owned houses had become available to the black workforce but, more importantly, the mining companies had started to sell off these houses in the private market. Where fully-fledged company towns existed, the mining companies opened them up for other residents or closed them and requested their staff to find housing in the nearest urban area (Van der Watt and Marais 2019). Despite these attempts, several company towns still exist and their living conditions are better than those in normalised and open towns (Cole and Broadhurst 2020).

In areas where new mines were opened, the mining companies were less likely to construct new company houses. They saw the risks of having housing assets and wanted to avoid them. The long-term risks have simply become too great; it was much safer to transfer those risks to municipalities and individuals. Incredibly, both the government and the unions have been keen to accept this process.

The release of the Housing and living conditions standard for the minerals industry, 2019 (South Africa, Department of Mineral Resources 2019) did counter some of the trend towards homeownership. This document requires mining companies to provide housing to their employees (where feasible). This is indeed a deviation from the narrow focus on homeownership. Yet the document still clings to the principle of socially integrating the mineworkers with the host community. Mine closure and its possible consequences for mine housing do not receive attention in the document.

In conclusion, the focus on housing assets, the idea of housing as a welfare strategy and the assumption that homeownership brings stability have become standard drivers of housing policy globally. Although such policies have some merits in stable economies, they are risky when applied to areas where economic stability is not certain and where migrant labour has been a historical reality. In the rest of the chapter, we assess Rustenburg's reality against the expectation that housing policy should play an important role in creating housing assets.

HOUSING AND INFORMAL SETTLEMENTS IN RUSTENBURG

Population and Economic Growth

By the early 1990s, platinum had become the new gold (see Chapter 2). This had profound implications for towns near platinum mines. Rustenburg's economy grew by nearly 4% per annum between 1996 and 2001, and by 0.7% per annum between 1996 and 2018. The increase in platinum production attracted many people to the area, causing population growth of 3.1% per annum between 1996 and 2016, from 310,000 to 627,000. Many mineworkers who had lost their jobs in the gold industry moved to the platinum mines, as the production modes are similar. The large-scale influx of people contributed to the development of informal settlements. According to the 2011 census, approximately 29% of Rustenburg households were living in informal housing, compared to 12% in the rest of South Africa (Stats SA 2013). Further contributors to informal settlement development have been traditional land around the mines and the mining companies relinquishing their housing responsibilities. Traditional land has fewer regulatory requirements than formal land and where regulations do exist, the authorities do not strictly enforce them, so this is where most informal settlements have developed. Mineworkers have made a trade-off between settling at a walking distance from the mines or obtaining housing in urban Rustenburg and paying daily transport costs.

Despite these growth patterns over the past 20 to 30 years, mine decline and closure are looming. The Global Financial Crises of 2008 reduced the demand for platinum (and cars) and the pressure to switch to electric vehicles has increased steadily over the past decade. Electric vehicles do not need the catalytic convertors (made from platinum) that are used to reduce emissions in petrol and diesel engines. Furthermore, Rustenburg is facing competition from the new platinum mines to the north, which are mostly open-cast mines with lower operating costs than Rustenburg's mostly underground mines. The long-term viability of the underground mines in Rustenburg is thus probably debatable. The first signs of decline have

become visible. There has been a reduction in the labour force and companies have changed ownership – an initial sign of impending closure.

Rustenburg’s Housing Profile, 1996–2018

The housing profile shown in Table 7.1 was created by comparing data from the 1996, 2001 and 2011 censuses, the Stats SA community surveys (2007 and 2016) and our survey (see Chapter 1). The profile is the result of the economic and demographic changes that we outlined in the previous section.

Table 7.1. Rustenburg’s housing profile, 1996–2018

	<i>Stats SA (Census or community survey*)</i>					<i>Our survey</i>
	<i>1996</i>	<i>2001</i>	<i>2007*</i>	<i>2011</i>	<i>2016</i>	<i>2018</i>
Formal house on separate stand	44.4%	46.5%	42.0%	58.5%	51.2%	65.9%
Traditional dwelling	2.2%	2.1%	0.9%	0.6%	0.4%	0.1%
Apartment or cluster house	3.7%	2.7%	2.6%	3.9%	2.6%	5.0%
Formal dwelling in backyard	8.2%	4.7%	5.1%	5.7%	13.8%	8.5%
Informal dwelling in backyard	17.2%	13.8%	21.0%	15.4%	12.7%	6.5%
Informal dwelling not in backyard	20.6%	26.5%	16.3%	14.4%	16.2%	11.4%
Room/flatlet	1.7%	1.0%	1.1%	0.6%	0.6%	2.5%
Other type of dwelling	2.1%	2.8%	11.0%	0.9%	2.5%	0.1%

Source: Stats SA (2008, 2013, 2017).

* Formal houses usually constructed of bricks, informal houses of corrugated iron.

Table 7.1 shows that the percentage of formal houses on separate stands has increased considerably, from 44% in 1996 to 58% in 2011, and 66% according to our survey in 2018. The table also shows that the percentage of traditional dwellings has declined. Most noteworthy in the table are the large percentages of people living in informal housing structures (either on a

separate stand or in a backyard), but also the decline in these percentages, for example from 38% in 1996 to 30% in 2011. Overall, it appears that government policy has improved housing conditions in Rustenburg.

Rustenburg’s Housing Profile from our Household Survey

In the housing profile from our survey, shown in Table 7.2, we distinguish three types of household: mineworker households (contract mineworkers and permanently employed mineworkers), non-mineworker households and the Bafokeng area households.

Table 7.2. Rustenburg’s housing profile based on our household survey, 2018

	Mineworker households			Non-mineworkers	Bafokeng household	Full sample
	Contract workers	Permanent employees	All mineworkers			
Sample size	79	303	383	562	206	945
Average monthly income*	R12 226 (37)	R14 513 (112)	R13 945 (149)	R4 016 (164)	R6 240 (78)	R8 735 (313)
Single person household	32.9% (26)	25.4% (77)	27.0% (103)	44.3% (249)	39.3% (81)	37.4% (353)
Average household size	2.49 (79)	2.81 (303)	2.74 (382)	2.27 (562)	2.50 (206)	2.46 (945)
Formal house on separate stand	63.3% (50)	72.6% (220)	70.7% (270)	62.8% (353)	66.0% (136)	65.9% (623)
Apartment or cluster house	2.5% (2)	5.0% (15)	4.5% (17)	5.3% (30)	0.5% (1)	5.0% (47)
Dwelling in backyard	10.1% (8)	11.6% (35)	11.3% (43)	6.6% (37)	23.8% (49)	8.5% (80)
Informal dwelling in backyard	10.1% (8)	1.7% (5)	3.4% (13)	8.5% (48)	7.8% (16)	6.5% (61)

Table 7.2. (Continued)

	Mineworker households			Non- mine- workers	Bafokeng household	Full sample
	Contract workers	Permanent employees	All mineworkers			
Informal dwelling not in backyard	11.4% (9)	6.9% (21)	7.9% (30)	13.7% (77)	1.9% (4)	11.4% (108)
Room/flatlet	2.5% (2)	2.3% (7)	2.4% (9)	2.7% (15)	0.0%	2.5% (24)
Other type of dwelling	0.0%	0.0%	0.0%	0.4% (2)	0.0%	0.2% (2)
Occupied rent-free	11.4% (9)	8.3% (25)	8.9% (34)	21.6% (121)	17.5% (36)	16.4% (155)
Rented	57.0% (45)	57.1% (173)	57.1% (218)	38.1% (214)	35.9% (74)	45.9% (433)
Owned	31.6% (25)	34.7% (105)	34.0% (130)	40.3% (226)	46.6% (96)	37.7% (356)
Piped water in house	45.6% (36)	60.4% (183)	57.3% (219)	40.0% (225)	27.2% (56)	47.0% (444)
Piped water on site	41.8% (33)	33.0% (100)	34.8% (133)	44.0% (247)	71.8% (148)	40.3% (381)
Other source of water	12.7% (10)	6.6% (20)	7.9% (30)	16.0% (90)	1.0% (2)	12.7% (120)
Flush toilet	75.9% (60)	85.5% (259)	83.5% (319)	65.3% (367)	40.3% (83)	72.7% (687)
Other toilet	24.1% (19)	14.5% (44)	16.5% (63)	34.7% (195)	59.7% (123)	27.3% (258)
Sharing a toilet facility	51.3% (40)	40.3% (122)	42.5% (162)	47.4% (266)	35% (72)	45.5% (429)
Improvements in the past 2 years	12.3% (9)	27.6% (76)	24.4% (85)	24.1% (126)	24.0% (46)	24.2% (211)

* The small sample size for income is the result of low response rates for this item. This is a general trend.

The table shows that mineworker households (including contract workers) have the highest average monthly income (R14,513) and the highest percentage of households living in a formal house on a separate stand (71%). The percentage of contract worker households living in a formal house on a separate stand is somewhat lower (63%). We have already

mentioned the role of mining in creating informal settlements. This may have been the case when the mining boom started, but the table shows that many non-mineworkers also live in informal houses. Only 11% of mineworkers live in informal housing, compared to 22% of non-mineworker households. We think there are four reasons for this situation: the mineworker households' higher incomes enable them to rent a formal dwelling; non-mineworkers also flock to mining areas to benefit at second-hand from the mineworkers' incomes; the minimal land-use regulations in the traditional areas foster informal settlement; and some mineworkers may not be able to afford to live in the formal housing areas.

A noticeable difference between mineworker households and non-mineworker households is that more of the former rent and fewer own their houses. Only 34% of the mineworker households own the houses they live in, compared to 40% for the total sample, and 57% of the mineworker households rent their current house, compared to 40% for the full sample. These figures point to the continued migration of mineworkers, with a higher percentage not necessarily wanting to own housing in the area where they are currently working. Further evidence of this is the relatively large percentage of mineworkers living in a backyard structure (rental housing). Mineworkers are wary of committing to homeownership in an area where economic viability is not guaranteed.

Contract work has become a prominent feature of the South African mining scene. Table 7.2 shows that contract workers are generally worse off than workers permanently employed by the mining companies. Their income is slightly lower, they are more likely than permanent employees to rent, a larger percentage of them live in informal housing and they have lower levels of facilities like water and sanitation.

The Bafokeng households' incomes are substantially lower than the average for mineworkers and more than the average for non-mineworker households. The fact that 99% of them have water in the house or on the stand points to investments made by the RBN in the area. However, despite the better water facilities, these settlements' remote location has made it difficult to provide waterborne sanitation.

Migration Patterns

Along with the mineworkers who migrated to Rustenburg as the global demand for platinum increased, many lower-income people also poured into the area. Table 7.3 shows details of the households in our survey.

Table 7.3. Migration patterns in Rustenburg

	Individuals in mineworker households			Non-mineworker households	Bafokeng households	Full sample
	Contract workers	Permanent employed	All mine-workers			
Sample size	197	851	1,049	1,274	515	2,323
Born in South Africa	92.4% (182)	94.2% (800)	93.9% (982)	89.5% (1 139)	91.7% (472)	91.4% (2 121)
Born in North West province	59.4% (107)	65.0% (517)	64.0% (624)	73.9% (832)	89.6% (422)	69.3% (1 456)
Lived in Rustenburg in 2008 (or born after 2008)	58.5% (113)	64.5% (544)	63.4% (657)	65.7% (832)	74.3% (382)	64.7% (1 490)
Ever lived in another town	24.5% (37)	18.7% (129)	19.7% (166)	13.0% (133)	9.3% (42)	16.0% (299)

We found little evidence of non-South Africans being involved in the mining industry. Nearly 94% of the mineworkers in our survey were born in South Africa. The small percentage born outside of South Africa are most likely from Lesotho. The percentages of households from outside South Africa are slightly higher for the non-mineworker households and for the full sample. The migration patterns can be seen in the other three indicators (born in North West province, lived in Rustenburg in 2008, ever lived in another town). Of the contract workers, only 59% were born in the province, 59% lived in Rustenburg in 2008 and 25% had lived in another town. For permanent employees, the percentages for the first two of these indicators are slightly higher: 65% were born in the province and 65% lived in Rustenburg in 2008. Only 19% of permanent employees had lived in another town. Only a very small percentage, 9%, of the Bafokeng area households had ever lived in another town. It is clear that both permanent employees

and contract workers have experienced substantial migration, hence the tendency, noted above, to rent housing. This high level of mobility raises the question of what the implications are for homeownership in the event of mine decline or closure.

Housing Assets and Wealth

Our survey used subjective non-financial wealth assessment methods, based on the respondents' statements of the number of household assets they own (such as a microwave and television), their income level and their own assessment of their wealth ranking (they were asked to rank their wealth on a ladder where the first rung is very low (1) and the top rung very high (6). The results are shown in Table 7.4.

Table 7.4. Assets and wealth ranking of households in Rustenburg

	Mineworker households			Non-mineworkers	Bafokeng households	Full sample
	Contract workers	Permanent employees	All mine-workers			
Sample size	79	303	383	562	206	945
Average number of assets (of 17)	7.5 (79)	8.7 (302)	8.4 (381)	6.9 (561)	7.9 (206)	7.5 (943)
Above average income	38.2% (29)	7.0% (21)	13.3% (50)	9.3% (51)	2.5% (5)	10.9% (101)
Average income	22.4% (17)	46.5% (139)	41.6% (156)	17.7% (97)	30.5% (62)	27.4% (253)
Below average income	39.5% (30)	46.5% (139)	45.1% (169)	73.0% (400)	67.0% (136)	61.7% (570)
Six-step ladder today	2.42 (76)	2.90 (299)	2.80 (375)	2.19 (555)	2.36 (203)	2.44 (931)
Six-step ladder 5 years ago	2.31 (78)	2.61 (299)	2.55 (377)	2.22 (555)	2.44 (203)	2.35 (933)
Six-step ladder 10 years ago	2.07 (75)	2.41 (298)	2.34 (373)	2.1P4 (550)	2.41 (203)	2.22 (924)
Six-step ladder when 15 years old	1.82 (73)	2.22 (282)	2.14 (355)	2.07 (538)	2.35 (198)	2.10 (894)

Note: The numbers in the ladder rows, 2.42 etc., are the average out of a possible six.

The mineworker households have the highest number of household assets, suggesting that their household wealth is high although they have the lowest level of housing assets, only about a third of them being homeowners. They have seen the steepest rise on the six-step ladder over the past 15 years, from 2.22 on the ladder to 2.90 (a 0.68-point improvement). The next wealthiest group is the contract workers, with an increase of 0.6. This suggests that mining employment does play an essential role in fostering development. In terms of income, only 7% of the permanent employees think their income is above average, whereas 38% of the contract workers think so. This anomaly is probably the result of permanent employees experiencing high deprivation levels (for example, many of them view themselves as having below-average income) despite apparently having the highest household income.

The Bafokeng households have an average of 7.9 household assets, more than for the non-mining households and the full sample. Their ladder rankings are also mostly higher than the others, but they have not improved over 15 years, which may be because very few of the Bafokeng people have been employed on the mines.

CONCLUSION

Although the latest policy guidelines from government promote a wider range of housing types for mining areas, the emphasis is on homeownership and the integration of mining and non-mining communities. This originates from historical changes in policy since the mid-1980s, which were reinforced by post-apartheid policies. The problem with this push for homeownership is that it does not consider housing problems associated with mine closure or migration patterns. The evidence above shows that mineworkers have built considerable assets and wealth over time. Some of this is the direct result of post-apartheid housing policy. There is evidence that mining has contributed to mineworker wealth and local economic development. However, the current housing policy and its application over

the past 30 years do not take into account the risk of mine decline and closure.

This chapter compared the housing and asset profiles of mineworker households, non-mineworker households and households living on traditional land managed by the Royal Bafokeng Nation. The following are our three main concerns, given the risk of mine closure.

The first concern is what the mineworkers are doing to manage this risk. The data show that one thing they are doing is renting rather than owning housing. This may of course be partly because of the unaffordability of housing in Rustenburg. Yet the initial response from the government was primarily to create stability through homeownership. Policymakers should take note that the mineworkers do not necessarily consider homeownership a good idea.

The second concern is the over-emphasis on homeownership in the current policy approach. The mineworkers should be offered a range of choices. Often, the government promotes home ownership simply because it is the only formal option available. The mineworkers' only viable alternative is to settle informally. The advantage of renting is that one can easily give notice and leave. The latest version of the Housing and living conditions standard for the mining industry (South Africa, Department of Mineral Resources 2019) is a step in the right direction, but this policy document can do more to consider the implications of mine decline or closure.

The third concern is the risks that homeowners in mining areas will face in the event of mine decline or closure. The risk is even higher where they have an outstanding mortgage. Their housing is likely to lose value to the point where it becomes impossible for them to migrate after the mine closes.

Although it is difficult to project the future of platinum mining or the likelihood of mine decline in Rustenburg, there are indications of possible decline and closure. Housing policy should be of such a nature that it gives mineworkers as much flexibility as possible when retrenchment occurs. A focus on housing assets may not be the most appropriate housing response.

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Chapter 8

MUNICIPAL FINANCES IN RUSTENBURG

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ABSTRACT

Municipal Finances in Rustenburg, continuing the theme of the reality of Rustenburg as an open town, investigates how mining affects the Rustenburg Local Municipality's financial management. International studies say that mining has considerable economic benefits for a town. However, municipalities in mining towns often cannot cope with mining's complex issues. Audited financial statements and reports show that mining has a significant influence on Rustenburg's municipal finances. Mining-induced growth in Rustenburg has increased local revenue but also municipal expenditure. The municipality has had to purchase more bulk water and electricity and finance the infrastructure for new plots of land. The expenditure keeps track with the revenue and are in line with the inflation rate, which confirms that the municipality did not benefit from the mining activities in Rustenburg. Inadequate financial management by the municipality has caused its citizens financial distress and affected service delivery.

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Keywords: financial distress, mining, municipal expenditure, municipal finances, municipal revenue

INTRODUCTION

Municipalities worldwide have traditionally served two primary goals, that of representing the people and that of delivering a variety of services to communities. As such, municipalities offer a voice to citizens and the opportunity for debate about local issues at community level. Concerning the services function, municipalities provide essential services such as town planning, economic development, protection of the environment, supply of water and electricity, collection and disposal of refuse and infrastructure such as houses, roads, public spaces and sanitation (Cheshire, Everingham and Lawrence 2014).

One of the most significant impacts of mining activities on municipalities is the migration of people to a mining area, mainly where the mine is the most important economic activity. Sudden increases in the population lead to pressure on land, housing, water and electricity, as well as problems with sanitation and waste disposal. Cheshire et al., (2014) noted that while the economic benefits of the resource boom in Australia have been considerable, it also had an impact on municipalities. Intensive mining presents amenity problems, housing shortages, increasing demands on infrastructure, environmental degradation and conflict with other industries such as agriculture.

As the sphere of government closest to the citizens, municipalities play a central role in mining governance, as mining and mining expansion relate directly to housing and service delivery, the capacity of local infrastructure to withstand increased demands and increased conflict over land use and resource allocation (Hendriks and Marais 2017). However, municipalities often do not have the institutional capacity and resources such as human capital and finances, planning strategies and service delivery to cope with the sudden influx of a large number of people. A sudden increase in the population also creates difficulties in determining the exact level of facilities

required, particularly when the population increases substantially over a short period of time (International Institute for Environment and Development [IIED] 2002). This chapter investigates whether Rustenburg Local Municipality (RLM) gained financially from mining activities. The chapter further analyses the financial statements, annual reports and reports of the Auditor-General over a period of five years.

MINING COMPANIES' EXPECTATIONS OF MUNICIPALITIES

Despite the expectations of mining companies that municipalities will be able to manage mining and mining expansion within their jurisdictions, local governments themselves are often constrained in their ability to expand their service delivery role. According to Haslam McKenzie et al., (2009), who have detailed the impact of mining activities on rental and housing availability and affordability, municipalities do not have the necessary capacity to deal with the complex issues related to mining. This is primarily due to inadequate resources related to rapid population increases in municipal jurisdictions (Barclay et al., 2012). In short, local councils have limited resources, making it difficult for them to respond to community and industry demands for better infrastructure and services in the context of rapidly expanding service delivery requirements.

Furthermore, the growth in households is important because households demand basic services which place pressure on local government. The general trend in South Africa over the past 20 years is a more rapid increase in the number of households than in the overall population growth rate, reflecting a decline in the number of persons per household (Ledger 2015).

Traditionally, all taxes and royalties from mining operations have accrued to the central government, while municipalities have only benefitted from the spending of the central government in a municipal jurisdiction (Hendriks and Marais 2017). This is now changing as many countries such as Bolivia, Canada, Colombia, Indonesia and the Philippines are redistributing benefits to municipalities through changes in policies and legislation (IIED 2002). However, the amount allocated to a municipality

should be part of an agreement involving the central government and municipalities.

Limits on municipal taxation of mines contributed to the lack of financial resources of mining municipalities. Until recently, municipalities in South Africa could not levy property taxes on land beyond the urban fringe, which meant that mines outside of core cities did not pay local taxes. The Local Government: Municipal Property Rates Amendment Act, 2014, allows municipalities to set a rate for land used for mining (South Africa 2014). However, the Act limited taxation to the value of the land and infrastructure above the surface. In effect, it excluded from the local tax base the value of both mining rights and underground mining investment, which constituted the mines' greatest assets on the land (Ledger 2015; Makgetla and Levin 2016).

Even where policy is explicit, bureaucracy can hamper reform, for example, where numerous government ministries remain responsible for decisions. Although the South African government has embarked on policy and legal reform, problems still remain. Weak local governance and complex fiscal disbursement mechanisms at the national level have made it difficult for municipalities to obtain funds (IIED 2002). The national government has not explored levies for development, despite the potential to generate substantial revenue and support the provision of infrastructure to unlock growth (South Africa, National Treasury 2020). The recent legislative amendments contained in the Draft Municipal Fiscal Powers and Functions Amendment Bill (South Africa 2020), requires property developers and owners to pay for the costs incurred by local governments to install new infrastructure. Examples include the provision of water, sewerage, electricity, municipal roads, stormwater drainage, gas and solid waste removal.

MUNICIPAL FINANCES IN SOUTH AFRICA

Municipalities are at the coalface of service delivery as they are the sphere of government closest to the people. The Constitution of the Republic

of South Africa, 1996 (South Africa 1996) mandates municipalities to provide basic services such as potable water, electricity and sanitation. Municipalities need money in the form of revenue to provide these services to their communities. There are two primary sources of revenue for municipalities, namely internal revenue from own sources and government grants. In terms of internal revenue sources, user charges on the sale of water and electricity and property taxes are the most significant contributions. Two forms of grants are available, namely conditional grants allocated by the national government which are accompanied by specific conditions that municipalities must adhere to and transfers of equitable shares that municipalities are entitled to receive under the Constitution.

Sound financial management is an integral part of the success of any municipality. It affects every aspect, from developing plans that can make the most of opportunities, revenue collection, cash flow management and expenditure tracking to provide services that meet the needs of communities (Association of Chartered Certified Accountants 2016). Municipalities face dynamic challenges such as complex societal needs, resource constraints, inadequate financial management capacity and socio-economic conditions. Without sound financial management, information can be incorrect or absent, decision-making is flawed and minor issues can become serious problems that can put the municipality at risk. Sound financial management is therefore essential for the long-term sustainability of municipalities. It underpins the process of democratic accountability and weak or opaque financial management results in the misdirection of resources and increases the risk of corruption (Hanabe, Taylor and Raga 2018).

South Africa performs relatively well when compared to other developing countries in terms of public financial management. This is confirmed by the *Global Competitiveness Report 2017–2018*, which ranked South Africa as 61 out of 138 countries (Schwab 2018). The report noted the strength of auditing and reporting standards in South Africa, where it was ranked first. However, it also highlighted the three most problematic factors for doing business with South Africa as corruption, crime, theft and government instability. Besides, the *2018 Ibrahim Index of African Governance* ranked South Africa fourth of the 54 countries in Africa (MO

Ibrahim Foundation 2018). This index is a tool that measures and monitors governance performance in African countries. These two reports viewed South Africa holistically, including the national and provincial spheres of government as well as local municipalities.

Municipalities in South Africa are very diverse, ranging from cities with great potential for revenue generated from the sale of services and property taxes to rural municipalities where most residents are very poor and grants primarily finance the municipal budget (South Africa, National Treasury 2020). Unlike the national and provincial governments, municipalities are responsible for generating their revenue to sustain its legislated mandate. This makes municipalities responsible for their fiscal sustainability. Furthermore, the Local Government: Municipal Finance Management Act (South Africa 2003) assigns municipalities the primary responsibility to avoid, identify and resolve financial problems that they may experience. As required by the Constitution, national and provincial governments must support and strengthen the capacity of municipalities so that they can manage their affairs, exercise their powers and perform their functions. Indicators used for this chapter, such as reports of the Auditor-General and the National Treasury, show that numerous municipalities in South Africa are not financially sustainable and experience some form of financial distress. The National Treasury (South Africa 2019) defines financial distress in this context as the sustained inability of a municipality to fund the delivery of basic public goods and other requirements as per their constitutional mandate. This has far-reaching implications for the political, social and economic state of affairs in a municipality.

Municipal financial distress is a global phenomenon, which has captured the attention of researchers and managers of public institutions to contribute to the continuity and financial sustainability of public services (Alaminos et al., 2018). South Africa is no exception in this regard; 163 of the 257 municipalities experienced some form of financial distress in 2019 (South Africa, National Treasury 2019). The main contributing factors to the financial distress of municipalities are overspending of their budgets, insufficient cash to fund operations, underspending of capital budgets,

outstanding debt and creditors and inadequate spending on asset management.

This chapter uses the audit reports of the Auditor-General on local governments over a period of five years (2014/15 to 2018/19). The audit findings on municipalities show that the financial health of municipalities deteriorated over the five years. The Auditor-General (South Africa 2019) stated as follows in the 2018/19 audit report:

While the poor economic climate does play a role in the deterioration of municipalities' financial health, many are just not managing their finances as well as they should. For example, we are reporting fruitless and wasteful expenditure that amounted to R1,3 billion for the period under review.¹ This is effectively money lost.

Some of the main reasons for the deterioration in the financial health of municipalities relate to poor leadership, a high level of vacancies, lack of skills and competencies, lack of accountability and disobeying legislation and duties. It is evident that the financial management landscape of municipalities, in general, is not what it should be and that there is a considerable need for improvement. It is against this background that this chapter discusses the finances of the RLM.

ASSESSMENT OF THE RUSTENBURG LOCAL MUNICIPALITY'S FINANCIAL STATEMENTS FOR 2018/19

Rustenburg is located in the eastern part of the North West province. There are 23 municipalities in the province, of which four are district municipalities and 19 local municipalities. Rustenburg is part of the Bojanala Platinum District Municipality (South African Government 2020). In the 2018/19 financial year, not one of the municipalities in the province received a clean audit report. Furthermore, the audit results of 2018/19 were

¹ At the time of finalising the book in April 2021, 1USD = R14.80.

the worst since 2012/13 (South Africa, Auditor-General 2019). All the municipalities in the province use consultants to prepare their financial statements at a cost of R124.4 million. Yet, all of the financial statements submitted for auditing contained material misstatements (South Africa, Auditor-General 2019). Rustenburg was singled out by the Auditor-General for not submitting its financial statements on time as required by legislation, due to challenges with its financial systems.

Demographics

Mainly due to platinum mining in the region, Rustenburg is the fastest-growing municipality in South Africa (Municipalities of South Africa 2020). As shown in Figure 8.1, the population of RLM increased rapidly from 274,737 in 1996 to 690,000 in 2019. The number of households correspondingly increased from 57,793 to 341,348. An ever-increasing urbanisation rate such as experienced in Rustenburg, puts enormous pressure on a municipality to provide services to an ever-increasing population (South Africa 2014). It is precisely at household level that pressure exists. The RLM is under constant pressure to provide new infrastructure such as the electricity network, water supply infrastructure, sanitation systems and roads, as well as to maintain the existing infrastructure and meet the increasing demand for basic services.

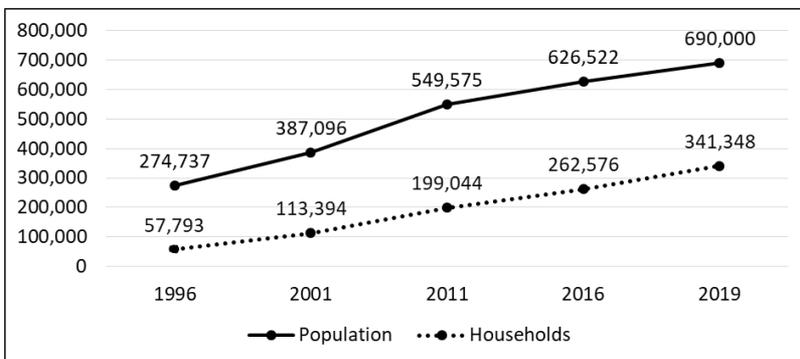


Figure 8.1. Population growth, 1996–2019.

According to Eunomix Research (2016), the mining boom experienced by Rustenburg has not benefited the majority of the Rustenburg population due to a plethora of underlying structural socio-economic problems such as inadequate infrastructure, high levels of crime, HIV and a lack of basic services. Inadequate local governance compounds many of the problems above, as public service delivery suffers from mismanagement of local public finances, a lack in government capacity and expertise and questionable policy decisions.

Revenue

Like other local municipalities in South Africa, RLM has two primary sources of income. The first is from revenue which they collect from their sources, such as profits on the sale of water and electricity, sanitation levies, refuse removal and property rates. The second source of income is grants from the national government such as the equitable share grant and other conditional grants.

The equitable share grant is used by municipalities to fund free basic services for low-income households. This grant provided a subsidy of R408.61 per month to each household in 2019/20. The subsidy included funding for the provision of free basic water (6 kl per poor household per month), energy (50 kW-hours per month), as well as sanitation and refuse removal based on service levels defined by national policy (South Africa, National Treasury 2020). The new conditional grant incentives encourage municipalities to improve their performance in the construction and maintenance of infrastructure. These grants may only be used according to the conditions and for the purpose outlined in the grant's conditions. Municipalities, therefore, have little discretionary powers in the usage of these grants.

The extent to which a municipality succeeds to generate its revenues is through a conventional billing system and successful collection contributes to the financial health of a municipality. It makes it less dependent on the national government to provide services. Figure 8.2 shows Rustenburg's

portion of its revenue compared to transfers of the national government in the 2018/2019 financial year.

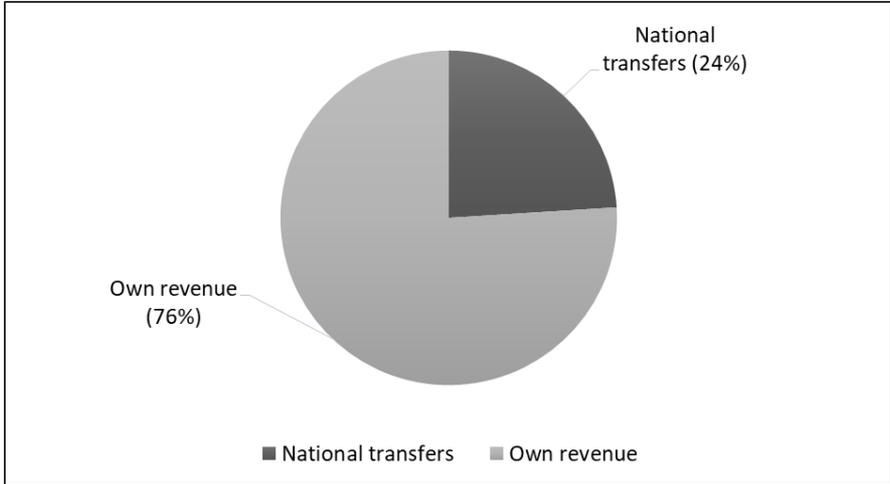


Figure 8.2. Share of municipal income per source, 2019.

Figure 8.2 shows that the RLM's own revenue is three times higher than national transfers, which means that Rustenburg depends more on its revenue to provide services than on transfers. A glance at the comparison of own revenue with grants may give the impression that RLM is performing well in their own revenue generation. However, according to the executive mayor, illegal connections of water and electricity amounts to huge losses (RLM 2019). An analysis of the financial statements showed that the RLM suffered water losses of 22,911,000 kl through the distribution process, which represents 52.64% of the total water purchased. This is a loss of more than R583 million for the financial year.

Figure 8.3 shows the different sources of own revenue for Rustenburg. Service charges, which includes the sale of water and electricity, sanitation and refuse removal, was the most significant sources of revenue. Of this, the sale of electricity (59.2%) was the most significant, followed by the sale of water (14.5%). This indicates how important a valid billing and collecting system is. Revenue collected from property rates was 9.5%, which illustrates

the effect when mining municipalities does not receive revenue from the value of both mining rights and underground mining investments.

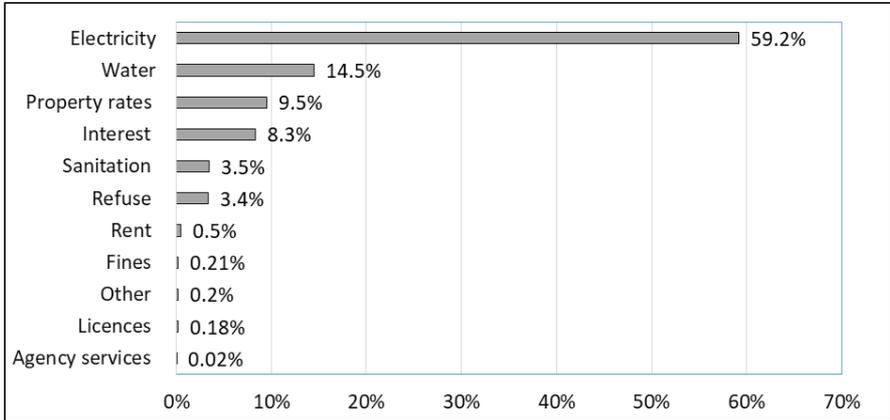


Figure 8.3. Contribution of own sources of revenue, 2019.

What further complicated the revenue from mining activities in Rustenburg is the prevalence of development initiatives that are owned and driven separately on tribal land of the Royal Bafokeng Traditional Authority (Makgetla and Levin 2016). Impala Platinum, one of the major platinum mining companies in South Africa, entered into a 40-year agreement with the Bafokeng authorities in 1999 to mine on Bafokeng land (Bezuidenhout and Buhlungu 2015). In turn, Impala Platinum pays royalties to the Bafokeng authority and focusses its corporate social investment on Bafokeng residents (Makgetla and Levin 2016). However, many of the mineworkers live in the jurisdiction of and receive municipal service from the RLM.

Expenditure

The main categories of expenditure for RLM in the 2018/19 financial year were bulk purchases of water and electricity (45.6%), debt impairment (179%) personnel expenditure (14.6%), contracted services (5.3%) and

general expenses (4%). The other expenditure sources were insignificantly small. In the 2018/19 financial year, the total expenditure exceeded the total revenue, leaving the municipality with an operating deficit, an indication that it is struggling to cope financially.

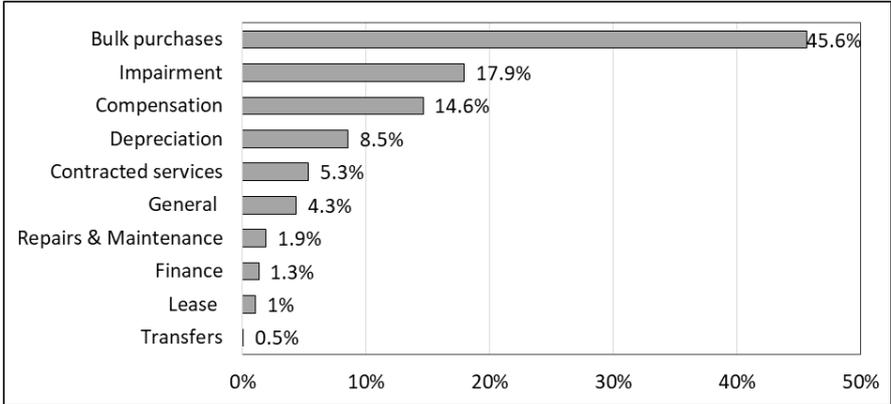


Figure 8.4. Expenditure per item, 2019.

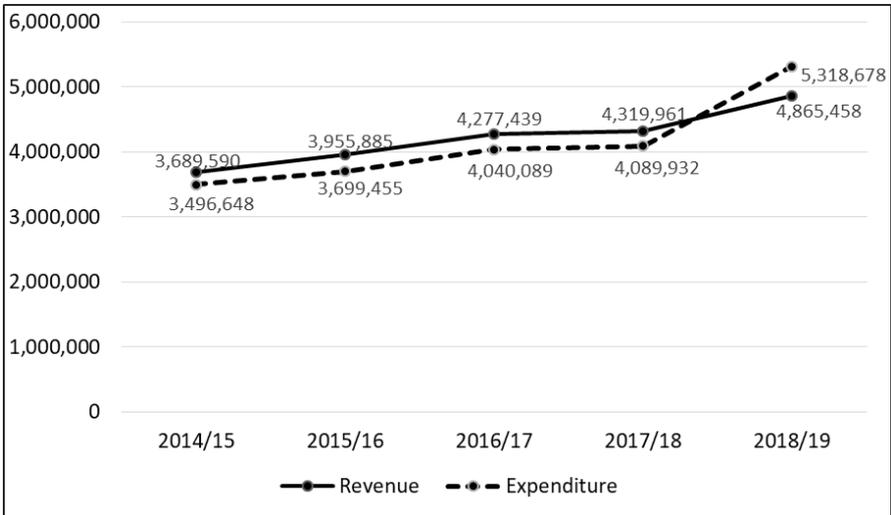


Figure 8.5. Revenue versus expenditure, 2014–2019 (rand).

Figure 8.5 depicts the revenue and expenditure of the RLM over a period of five years from the 2014/15 to the 2018/19 financial year. Rustenburg

experienced a steady average growth in revenue of 5.4% between the 2014/15 and 2017/18 financial years. The average increase in expenditure over the corresponding period was also 5.4%, which shows that revenue and expenditure kept track of each other. These figures are in line with the inflation rate, and although it was not the purpose of this chapter to conduct a cost-benefit analysis, it confirms that the municipality, like the population, did not benefit from the mining activities in Rustenburg. In the 2018/19 financial year, the revenue increased by 14%, while there was also a sharp increase of 30% in expenditure. According to the financial statements, the increase in revenue was due to higher revenue received from service charges on electricity and water and the increase in expenditure due to the write-off of consumer debt at the amount of R945,611,000 compared to R534,022,000 in the previous financial year. The effect of this was that the expenditure exceeded the revenue and the municipality ended the financial year with a deficit of R427,786,000.

Of concern for Rustenburg should be that more than 52% of the water purchased is lost through the distribution process before it reaches the consumers. Adequate spending on maintenance of assets protects the investment in infrastructure and contributes to sustainable service delivery. Research by the Financial and Fiscal Commission (2013) showed that should the current practice of not spending enough on maintenance continues, infrastructure within municipalities will deteriorate from poor to very poor within the next five years. Figure 8.6 shows the spending on repairs and maintenance as a percentage of property, plant and equipment over the 2014/15 to 2018/19 financial period.

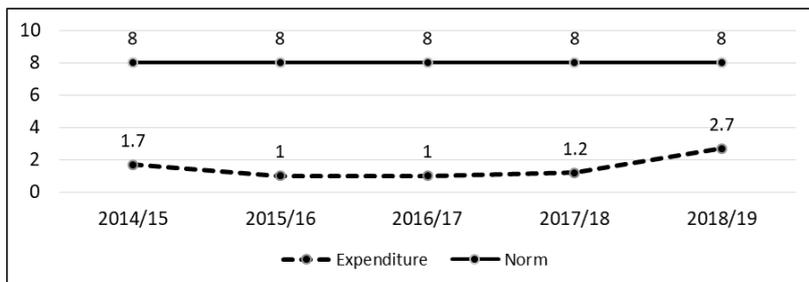


Figure 8.6. Spending on repairs and maintenance (percentage).

Figure 8.6 shows that Rustenburg spent consistently below the norm of 8% set by the National Treasury for repairs and maintenance. If a municipality does not regularly maintain its infrastructure, it will eventually deteriorate into a very poor condition and ultimately result in losses and additional replacement costs.

Financial Distress

The National Treasury uses eight indicators – cash coverage, cash balances, reliance on capital grants to fund capital budget, overspending of operational budget, underspending of capital budget, debtors' growth, debtors as a percentage of own revenue and creditors as a percentage of cash and investments – to classify a municipality as financially distressed. A score of 1–3 is used to rate each of the eighth indicators, where 1 refers to good, 2 refers to fair and 3 refers to poor. If a municipality receives a total score of 16 and more, the municipality will be classified as financially distressed. Table 8.1 shows the performance of the RLM for the 2017/18 financial year. As can be seen from the indicators, Rustenburg shows signs of financial distress and is a border case with a total score of 15. Further evidence of the financial distress is indicated in Figure 8.5, which shows that the RLM overspent its annual budget with more than R400 million. Financial distress will have a further impact on their ability to deliver quality services.

Table 8.1. Financial distress of Rustenburg

Cash coverage	Cash balance	Reliance on capital grants	Over-spending Operational Expenditure	Under-spending capital	Debtors growth	Debtors percentage of own revenue	Creditors percentage cash	Financial distress	≥16
3	1	1	2	1	1	3	3	15	None

A contributing factor to the overall financial health of a municipality is the value of money achieved through its expenditure. For municipalities to

receive full value for money, they should avoid unacceptable forms of expenditure.

UNACCEPTABLE EXPENDITURE

The municipal expenditure must be in line with prescribed policies, principles and guidelines such as the Municipal Finance Management Act (South Africa 2003), the General Recognised Accounting Practice and the Supply Chain Management policy of the municipality. The Act defines three categories of unacceptable expenditure a municipality can incur during a financial year. These are unauthorised, irregular and fruitless and wasteful expenditure. Unauthorised expenditure is an expenditure that was not authorised by the municipal council. Irregular expenditure is an expenditure that contravenes an act, regulation or other prescript and fruitless and wasteful expenditure is an expenditure that the municipality made in vain.

In the 2018/19 financial year, the RLM experienced unauthorised expenditure of R1 036 181 000. One of the reasons is that debt impairment (write-off of debtors) was higher as anticipated. The write-off of debtors serves as evidence that the RLM found it difficult to stay within its budget allocations, or to collect revenue due as well as outstanding revenue, which eventually led to the write-off of large amounts.

The municipality incurred a fruitless and wasteful expenditure of R793 000 in the 2018/19 year. The main contributing factor for this was interest paid on late payments of suppliers and court orders. The Municipal Finance Management Act, 2003, requires a municipality to pay invoices within 30 days of receipt. Suppliers can then charge interest and the accounting systems regard such interests as fruitless and wasteful expenditure. Payments must therefore be processed and paid immediately upon receipt to avoid fruitless and wasteful expenses. If municipal officials do not act prudently and are negligent, it often leads to late payments. This is evidence of poor financial management in a municipality.

The RLM disclosed irregular expenditure to the amount of R5,130,981, of which R416,341 was the opening balance carried over from previous

financial years. However, irregular expenditure must be investigated to determine the reasons for it and whether the municipality suffered any loss. The large amount from previous years is alarming and indicates a lack of consequence management by the municipality. This should be viewed against the comments of the municipal manager that RLM “in the last two financial years, witnessed the highest levels of maladministration. This sabotaged the gains that could have been made in the journey towards making Rustenburg a world-class city” (RLM 2019).

Inadequate local governance and bad management who are not proactive in managing their affairs compound many of the problems of the RLM, as public service delivery suffered from mismanagement of local public finances, a lack in government capacity and expertise, and questionable policy decisions (Eunomix Research 2016). The RLM, like many South African municipalities, suffers from a lack of skills, a lack of funds and challenges regarding coordination between the local municipality, the district and the province at large. For instance, experts have pointed out that government responses to the migration patterns have been insufficient due to a lack of capacity. In short, there is a local governance deficit at municipality level that compounds many of the structural issues facing the RLM.

CONCLUSION

Mining activities in the RLM jurisdiction contributed to an influx of people seeking better economic opportunities. However, while Rustenburg experienced rapid population growth, it did not gain the same financial benefits. A large influx of people put pressure on a municipality to provide new infrastructure, maintain existing infrastructure and deliver essential services. This study confirmed the effect of mining on the RLM finances. Like other mining municipalities, the RLM is experiencing financial distress, which affects service delivery to its citizens. In the 2018/19 financial year, its expenditure exceeded its revenue and large amounts of debt were written off because it became uncollectible.

The RLM faces serious challenges if it wants to remain financially sustainable. Two main contributing factors are the inability to collect revenue due to an inefficient billing and collecting system and the huge amount of bulk water losses in the distribution process. These problems are further compounded by maladministration, which affects the municipality's ability to provide its mandated services to the community. To prevent the RLM from slipping further, national and provincial governments should strengthen its support and also include councillors who are primarily responsible for overseeing the municipality.

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Chapter 9

**CONFLICTING PERCEPTIONS OF
SUSTAINABILITY IN MINING: INFLUENCING
FACTORS IN THE RUSTENBURG REGION**

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ABSTRACT

Conflicting perceptions of sustainability in mining: Influencing factors in the Rustenburg region investigates how communities around the mines experience sustainability. Continued conflict between the mining industry and its host communities threatens sustainability in mining. The onus is on the mining industry to operate more sustainably and initiate and implement several sustainability strategies. The chapter looks at why the mines and their host communities in the Rustenburg region differ in their

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perceptions of sustainability. Thematic analysis of both standard academic and commercial literature and grey literature reveals that the mines have focused on economic benefits more than on social and environmental costs. The critical concern is that mining companies cannot fulfil the obligations stipulated in their reports and on their websites. This leads to conflicts with the communities who are at the receiving end. Sustainability in mining will depend on transparency in the mining sector and open consultation with communities and local government.

Keywords: conflicting, mining, perception, Rustenburg, sustainability

INTRODUCTION

Sustainability in mining is perceived differently by the mining industry and host communities, leading to unending conflicts between mining stakeholders. This puts the mining sector under great pressure to operate more sustainably, leading to the development of several strategies for sustainability by relevant stakeholders. Mining remains an essential economic activity through which society obtains raw materials that serve as inputs for other industrial sectors and sustain a population's well-being and functioning (Carvalho 2017; Mancini and Sala 2018). The sustainability of mining has been a debatable issue because mining involves the extraction of non-renewable natural resources to create wealth and development (Bainton and Jackson 2020). Mining companies perceive the industry as sustainable from a socio-economic point of view, while communities perceive mining as unsustainable from an equity and socio-environmental point of view (Alves et al. 2020; Lassila 2018). Sustainable development involves a stable and continuous balance between the economic, social and environmental pillars (Figure 9.1). Sustainable development is hard to achieve in mining because mining has severe environmental implications (Lassila 2018; United Nations Educational, Scientific and Cultural Organization [UNESCO] 2020). Diesendorf (2000) explained sustainable development as economic and social developments that protect and enhance the natural environment while ensuring equity as indicated in Figure 9.1.

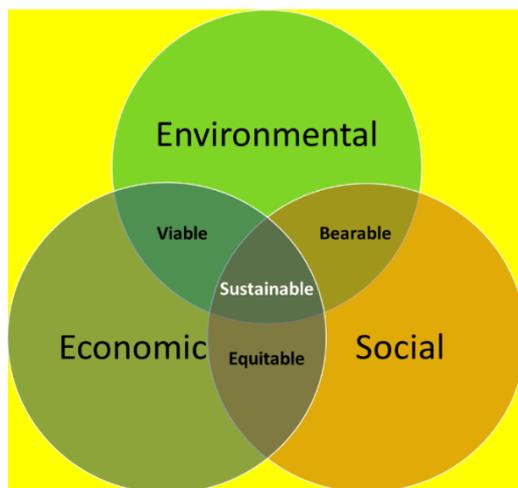


Figure 9.1. Interlinkages of the three pillars of sustainability ideal for the mining sector.

This chapter evaluates the factors that influence the conflicting perceptions of sustainability by mining companies and their host communities through a document analysis of relevant published and grey literature. From the findings, it is evident that the mining industry previously focused on economic value without much consideration for sustainability, but this is gradually changing in the sector. The factors that determine sustainability in mining vary from country to country; therefore, government at national and local levels have an important role to play in achieving satisfactory sustainable mining practices. Governments should prioritise the development and enforcement of legislation that supports sustainability in mining.

SUSTAINABILITY ISSUES IN MINING

Many developing countries have substantial amounts of natural resources that generate revenue and create development (International Finance Corporation 2020). Mining communities also accept mining projects because they expect economic, infrastructural and social benefits

from the mining operations (Acuña 2015); however, these expectations are often not realised due to the negative impacts that accompany mining. Mining often contributes to conflicts when host communities express their dissatisfaction (Mancini and Sala 2018). Bebbington et al. (2008a) described mining as a venture that results in the dispossession of mining communities. Dispossession in this context refers to the loss of land, clean water, good health, indigenous identities and many other aspects of a community's life that change once mining comes into the picture. These contentious issues are the driving factors of community–mine conflict and include environmental, social and economic issues.

Environmental Issues

Conflicts related to environmental issues arise from land degradation, change in landscapes and pollution of soil, air and water (Mensah and Okyere 2014). Mining generates a considerable number of wastes in the form of waste rock, tailings and mine water. The tailings have a high-risk potential of releasing toxic inorganic substances such as heavy metals into the air, soil and water (Otunola and Ololade 2020). This generates conflicts in these mining areas, for example, frequent conflicts revolving around freshwater rights because of the large quantity of water required by mining processes. This result in competition between mining and other sectors such as agriculture, which is often predominantly the livelihood of the community members (Mudd 2008). The demand sometimes leads to water stress, resulting in water shortages and pollution (Bian et al. 2012). Deaths of cattle and health challenges in humans originate from water and air pollution in the mining areas (Shongwe 2018). Polluted soil can also have significant impacts on the livelihood and well-being of communities, for example, the widespread *itai-itai* disease that erupted in Japan due to the consumption of rice contaminated by cadmium (Järup and Åkesson 2009). Hota and Behera (2015) stated that crop yields in the mining area of Odisha, India, were lower in areas affected by heavy metals, compared to those areas without mining influence. Most rural households depend on natural capital linked to land

and water for their livelihoods, which revolve around agriculture, agroforestry and animal husbandry (Bury 2004). Therefore, if these people have to stop farming or become less efficient in farming due to limited availability or contamination of arable land and water caused by mining activities, it is seen as a negative and unsustainable impact of mining (Bebbington, Bury et al. 2008; Bebbington, Hinojosa et al. 2008).

Mining may contribute or lead to the production of greenhouse gases and dust in the air. Air quality in areas downwind and near mines are often of more inferior quality to other areas, making residents prone to respiratory diseases such as asthma, silicosis and pneumonia (Ghose 2007). Chemicals used during blasting are released into the atmosphere and pose a risk to surrounding communities after exposure to it or using contaminated rainwater. As stated in previous studies (Akabzaa and Darimani 2001; Emmanuel, Jerry and Dzigbodi 2018), the direct effect on residents can be associated with increased respiratory ailments such as flu and colds. Research has also shown that “all fine dust at high exposure has the potential to cause respiratory diseases and disorders and can aggravate the condition of people with asthma and bronchial stiffness” (Akabzaa and Darimani 2001). In Chile, children have increased risk of respiratory diseases due to polluted air associated with mining operations (Herrera et al. 2016). Olufemi, Bello and Mji (2018) revealed that air samples collected at selected South African schools in proximity to mines contained high levels of sulphur dioxide, nitrogen dioxide and ozone, beyond a reasonable threshold.

Social Issues

The social issues associated with mining can be positive or negative. For example, the fact that mining leads to infrastructure development in their host communities has a positive impact (World Bank 2013), while a change in livelihoods associated with mining can be perceived as a negative impact when it is compelled by circumstances and not out of choice. Sometimes, when livelihoods are compromised, communities will have to migrate to areas with better opportunities. In Peru, where the livelihoods of the people

of Cajamarca were affected by mining, it led to seasonal migration to nearby regions to earn a living (Bury 2004), with a similar trend observed in Ghana (Hilson 2010). The nature of mining, which encourages migrant labour, usually alters the demographics of communities (Coderre-Proulx et al. 2016) that eventually leads to gender imbalance as most mining jobs require male workers (Frantál 2016; Mancini and Sala 2018). The aftermath of these imbalances includes increased prostitution, crime rate and drug abuse in such communities (Mancini and Sala 2018). Land expropriation is also a major social issue in mining regions, which deprives communities, especially indigenous people, of their traditional rights and practices (Langton and Mazel 2008; Wetzlmaier 2012).

Economic Issues

Generally, communities perceive the economic impacts of mining as positive because of job creation and incomes (Moomen et al. 2019). For some developing countries, mining remains their economic backbone with a significant contribution to gross domestic product. In 2014, the Democratic Republic of the Congo was the leading country with mining as the most substantial economic contributor. Other countries with a similar trend are Chile, Australia, Mongolia, Papua New Guinea, Zambia, Peru, Burkina Faso, Mali, Guyana, South Africa and Botswana (Ericsson and Löf 2017).

On local level, there are concerns around the economic atmosphere of mining communities, such as inflation, which increases the price of commodities, including housing, which negatively affects people's living conditions, especially those not employed in the mining sector (Hunter, Howlett and Gray 2015). In Peru, inequality within mining districts is higher than in non-mining districts, leading to social discontent and conflicts (Loayza and Rigolini 2016). Sometimes the lack of transparency by the government and mining industries results in misappropriation of mining-generated revenues, causing communities to dispute mining contributions in the sense that mining can do more for them (Bebbington, Hinojosa et al. 2008b).

Corporate Social Responsibility in Mining

Consideration of environmental stewardship and responsibility has caused the mining industry to focus more on sustainable practices over the last decade (Kogel, Trivedi and Herpfer 2014). Corporate social responsibility (CSR) is an effective way to incorporate social and environmental concerns into mining operations and ensure that it is in line with public expectations (Segerstedt and Abrahamsson 2019). CSR activities focus on ethical business practices; safety, health and environmental programmes; community enhancement and equity (Kumar et al. 2014). CSR should include the needs of the communities through adequate community engagement processes. If well designed and implemented, it can yield cooperation and understanding between mining industries and communities. For example, 67% of the workforce at the De Beers diamond mine in the north-western territory in Canada received training from the mine. Although the mine did not fully satisfy the employment commitment of the aborigines, it did not result in conflict because the communities were generally satisfied with provisions from the mine (De Beers Group 2019). The indigenous people in countries such as Australia and Canada are now being included in decision-making for resource management through the indigenous people's rights (O'Faircheallaigh 2013). The Sami people from Finland, Norway, Russia and Sweden also enjoy several types of protection from the legal systems of these four countries. However, these are sometimes surpassed by other rights, making protection ineffective, resulting in conflict (Koivurova et al. 2015).

The Role of Government in Achieving Mining Sustainability

Sustainability in mining has diverse interpretations and depends on commodity type, quality and quantity, the position of the mine whether above or below the water table, guiding policies, development and host

region (Mudd 2008). Therefore, no one approach to sustainability in mining exists. Still, a set of guiding principles in line with the sustainability standards of the Global Reporting Initiative, the European Union framework and the United Nations sustainable development goals, can be employed to tailor sustainable practice (Mancini and Sala 2018). Developed countries can strictly enforce efficient sustainability legislations, especially on environmental practices. In contrast, developing countries have been unable to enforce laws that promote sustainability, despite the availability of guiding principles (Carvalho 2017; Smith and Rosenblum 2011). Governments at different levels have a significant role to play in achieving sustainability in mining by working effectively with agencies, civil societies and industries to address challenges and find practical solutions (Smith and Rosenblum 2011).

Canada, in particular, set the pace for promoting sustainable practices within the mining industry by developing and enforcing the *Towards Sustainable Mining* initiative since 2014. This initiative comprises policies around six mining-related issues, namely tailings management, community outreach, safety and health, biodiversity and conservation, crisis management, management of energy use and greenhouse gas emissions. This initiative further demands performance reports based on 23 indicators around the six policies, and these reports are to be publicly available and verified every three years, to promote transparency and accountability (The Mining Association of Canada 2019). The policies can easily be adapted to accommodate the local needs of other countries. Some countries that have adopted this initiative are Argentina, Botswana, Finland, Philippines and Spain (Hancock 2020).

A significant problem that prevents enforcement of sustainability laws by developing countries is the lack of committed and competent government to ensure the development and implementation of sound policies (World Bank 2013). Another reason is the yearning for economic development which makes the government dance to the tunes of mining industries to promote economic investments, while overlooking their unethical conduct (Carvalho 2017). The case of Botswana is different because the country has

been able to steadily grow towards sustainable mining (Besada and O’Bright 2018). Since adopting Canada’s *Towards Sustainable Mining* initiative in the year 2015 (Hancock 2020), Botswana has been leading regarding sustainability in mining on the Africa continent (World Bank 2013). The country is an example of how good governance is a critical tool to achieve sustainable development (World Bank 2013). Botswana’s government is effective in implementing mining and sustainability policies, with the country also showing prudence in managing and reinvesting the fiscal gains from mining (Besada and O’Bright 2018).

OVERVIEW OF MINING AND COMMUNITY CONFLICTS IN THE RUSTENBURG REGION

The Rustenburg region is the largest platinum deposit in the world, with nearby communities suffering several problems such as social inequality, infrastructure and water problems due to contamination of rivers and boreholes. Previous research also indicated high levels of immigration (Shikwambana and Tsoeleng 2019). Studies found that the majority of migrants are from South Africa (Kibet 2013; Shikwambana and Tsoeleng 2019). A common trend is the movement of employees between their communal areas and commercial and industrial activity zones.

Table 9.1 outlines the major implications arising from mining operations in Rustenburg based on previous studies conducted in the area. The area had been facing water-related issues such as water quality problems and scarcity. The rise in both water turbidity and colour is attributed to the poor quality of the raw water due to low dam levels and the impact of mining and agricultural operations in the area. It is further compounded by the inversion of the dam that resulted in elevated iron and manganese levels originating from the mine (Mavunda 2016). Health challenges result from exposure to polluted air from mines, where many mineworkers were incapacitated and no longer able to work on the mines; hence, they became a burden to their

home communities (Olebogeng 2020). The prevalence of silicosis and tuberculosis among mineworkers is due to the working environment in the mines. At the same time, the high prevalence of HIV originates from the social environment of host communities (Maruping 2019; Olebogeng 2020).

Another consequence of mining is land invasion. For example, Anglo American Platinum (known as Amplats) returned hectares of land to the Rustenburg Local Municipality after several years of acquisition. However, due to the mine's activities on that land, the returned land may not be useful for the communities, especially not of a quality suitable for farming. This can lead to conflict as the area is mostly known for agricultural production which contributes to livelihood and household food security (Oduniyi 2018).

As the world's leading mining area for platinum group minerals, the mines in Rustenburg have the potential to influence their host communities, the national economy and development (Hamann and Kapelus 2004; Ololade and Annegarn 2013). Yet, its social and environmental footprints have not been prioritised based on the frequent unrest and conflict in the region as a result of dissatisfaction by the host communities (Montmasson-Clair 2015). Blasting from the mines causes vibrations and dust pollution, which can contribute to damages to buildings and ill health in the host community (Bench Marks Foundation 2011). If there is no adequate measure or compensation for affected victims, it can trigger conflict between the mines and community members. Table 9.2 presents the sustainability strategies of some mining industries in Rustenburg, as indicated in their various reports. The implementation of these strategies was assessed based on the residents' perceptions and information acquired from relevant literature and media reports.

As indicated in Table 9.2, the strategies put in place by the mines in the Rustenburg area put development of the communities at the forefront of their initiatives. The information was acquired from mining reports and websites. However, as far as the environment and the implementation of human rights are concerned, the achievements of the mining industries are not good, as indicated in Table 9.1. For example, mine-polluted lands do not favour farming because mining causes significant soil sterilisation due to the collapse and acidification of the soil. This inadvertently compromises their

livelihoods and food security, thereby leading to unemployment and lower quality of life. The mines, however, claimed that these negative aspects have been reduced.

Table 9.1. Implications of mining in the Rustenburg region

Environmental impact		References
Polluted water	A few years ago, SRK Consulting reported at a local community meeting that the underground water of Rustenburg was polluted and information should be sent to all affected communities to warn them not to consume water from boreholes in the affected region. An assessment of groundwater quality showed a high nitrate level in the water. On 22 September 2010, the National Department of Water Affairs and Forestry was asked to conduct a water check to provide more supporting evidence. However, no further action was taken, despite community follow-up and the possibility of adverse impacts on human health.	Bench Marks Foundation (2011)
Air quality	The rates of pollution generated from mining and smelter operations in the region are unknown, although the carbon emissions are high. The mining industry claimed, however, that they used non-standardised instruments such as dust buckets to monitor the dust emission. They also claimed to be emitting below the established standards. Since the inception of mining operations, there has been an increase in health-related problems such as asthma, tuberculosis and sinusitis.	Bench Marks Foundation (2011); Cairncross (2014)
Invasion of land	The land in Rustenburg is privately and publicly owned. Anglo American Platinum recently handed over a hundred hectares of land to the Rustenburg Local Municipality and the Rustenburg Community Development Trust in support of sustainable land reform in South Africa. This is an indication that mines have acquired a significant amount of land for their operations in the past, which could have caused conflicts.	Cairncross (2014); CS Consulting (2016)
Occupation of land, displacement of people and an influx of migrants	The increasing population and development driven by the Rustenburg platinum mines resonate with land occupation, displacement of indigenous peoples and migration to the area. This combination of a mining boom and lack of urban planning could have a major impact on the ongoing social struggle in Rustenburg.	Bezuidenhout and Buhlungu (2015)
Direct influence on structures	There were complaints of cracked buildings and houses due to vibrations that occur during blasting and underground operations. People also complained about noise arising from blasting and equipment being used in the shafts.	Ololade and Annegam (2013); Bench Marks Foundation (2011)

Table 9.2. Sustainability strategies and activities of some mining industries in Rustenburg

Mining company	Description	Reporting indicator	Contribution or relevant disclosures
Impala Platinum	Promote sustained, inclusive and sustainable economic growth, full productive employment and decent work for all	<ul style="list-style-type: none"> • A high number of permanent employees in the group • The continuous decrease in the lost-time incident frequency rate • Inclusive procurement 	<ul style="list-style-type: none"> • 32 673 own permanent employees in South Africa (2018) • A 12% yearly improvement in the lost-time incident frequency rate • In 2019, Impala Platinum procured goods and services to the value of R1.67 billion from businesses in the host communities in South Africa, a 19% improvement every year
	Make cities and human settlements inclusive, safe, resilient and sustainable	Deliver projects that meaningfully mitigate social challenges in the host communities	In 2019, the company spent R86.2 million on social projects in South Africa. A selection of these projects was reviewed for impact and the majority were rated as good
	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	There was continuous improvement in operational efficiency to ensure that at least 40% of the consumed water is recycled, especially in the host communities	42% of the water was recycled and managed for consumption
	Protect, restore and promote sustainable use of terrestrial ecosystems	Implementation of concurrent rehabilitation to reduce closure liabilities and improve rehabilitation outcomes	R58 million was spent on rehabilitation initiatives and R1.49 billion in provisions for environmental rehabilitation by the end of 2018 financial year
Anglo American Platinum	Unemployment	The official unemployment rate in 2011 was 26.4%, with 11.8% of that population being the youth (no recent report on employment)	Building institutional capacity and accelerating provincial human capital to stimulate economic growth and development with their host community
	Housing	In 2001, there were 113,394 households which have increased to 199,044	Efficient provision of quality basic services and infrastructure within a well-planned spatial

Mining company	Description	Reporting indicator	Contribution or relevant disclosures
		according to the 2011 Census (Statistics South Africa 2011)	structure, including housing supplied by the mine
	Economic goal	The group have an average economic growth rate of 6.6% per annum and aims to halve unemployment over ten years in the area	Promote small businesses to provide job creation
	Poverty eradication goal	Wipe out the “basic needs” backlog following the provisions of the Constitution of the Republic of South Africa and prepare the poor for future growth and development	Training and skills development: invest mainly in small, medium and micro enterprises in the province
Glencore	Community engagement	Engage with communities, create value for society and uphold human rights	Creating value for society beyond direct economic impacts, for example by supporting enterprise development and facilities such as schools, health care, water supplies and roads
	Community relations training	Community leadership programme to guide people on how to work with communities and meet global standards	Build and enhance the social performance capabilities of their operations
	Human rights	To uphold the human rights of the people and host local communities	Design a human rights approach to reflect the nature of the group’s business and the geographies in which they operate
Sylvania Platinum	Employment	Wherever possible, employees and contractors are sourced from the local communities within the various operations	Sylvania actively supports the Employment Equity Act and has put in place established structures to ensure all barriers to achieving diversity are identified and that actions are taken to combat them
	Upskilling	Implementation of a number of critical programmes to build capacity and enhance skills development, with particular focus on the youth	<ul style="list-style-type: none"> • Increase stakeholder satisfaction • Attract new talents

Table 9.2. (Continued)

Mining company	Description	Reporting indicator	Contribution or relevant disclosures
	Internship and experimental programmes	In support of social drive among local communities, the group introduced opportunities for internships and work experience. The internships run over a period of 12 months	The first set of beneficiaries began the programme in May 2019
	Community engagement	Engagement with local communities is necessary to understand, manage and respond to community concerns and expectations	The company regularly supports various local development projects approved by the host mine. Sylvania was involved in several community development programmes, including school feeding programme, school uniforms and equipment, maintenance and construction work

Community's Perceptions About Mine Industries and the Potential Conflict-Fuelling Factors

Community-based conflict or protest actions against mining companies in both developing and developed countries are related directly to economic growth and environmental concerns. In the Rustenburg area, most “community-based protests against mining companies are rooted in social issues such as job creation and infrastructure building. Of note is that 39 of such incidents were recorded in Rustenburg between the years 2013 and 2018, of which almost half (16) were related to unemployment and job demands (Lancaster 2018). Approximately six were related to community concerns that mines had either violated their social and labour plan responsibilities or ignored infrastructure development. The remaining 12 were linked to industrial action or corruption, land ownership and abuse,

mine ownership and illegal mining (Lancaster 2018; Ndinga-Kanga, Van der Merwe and Hartford 2020).

Some of the causes of the conflicts in the Rustenburg area remained unaddressed, leading to continuous protests by the host communities. Some of the notable incidents that occurred during the protests are characterised by burning of tyres and by blocking off roads in November 2014 and February 2015. Employment and job security were the main bones of contention, including the mine's inability to contribute to the development of the area (Lancaster 2018; Ndinga-Kanga et al. 2020). One major underlying factor that characterised most of these protests is unemployment which indicates that it is a significant issue of concern in the area.

Lancaster (2018) stated that six people were detained in July 2015 after a truck was torched during a protest in Majakaneng, near Brits in the Northwest province, when a group of young men from a nearby mine demanded job opportunities. Later that year, disgruntled youth from Morogong, Bojating, Phalane and Phadi demanded jobs on the mines during a protest in Rustenburg, during which an office in one of the mines was burnt down (Lancaster 2018). In January 2016, youths from the Lesetlheng village near Rustenburg, barricaded the road leading to the Sedibelo platinum mine, accusing the mine of not employing locals. In September 2016, residents of Ga-Malukane and Chaba Village blocked the road at Witvinger that leads to the Anglo American Mogalakwena platinum mine to express their displeasure with the mines. In April 2018, the Coalsafe conference that was organised by one of the mines in the area, was disrupted by aggrieved workers and locals, during which the management of one of the mines warned the mines against the risk of another Marikana incident that dates back to January 2012 (Cairncross and Kisting 2016; Chinguno 2013).

Rustenburg's well-documented lack of sufficient housing has also led to many social problems and conflicts within the mining communities. There was a housing backlog of around 59 000 homes and hostels in 2011, while more than 45% of all Rustenburg dwellings were informal housing, compared to the national average of 15%. About 45% of the residents in Rustenburg rent their homes and approximately 30% own their own houses in the area (Economix Research 2016; World Bank 2014). The remaining

population (around 20%) live either in hostels or in rent-free housing (shacks). The resulting crowded dormitory-style living conditions increase the risk of spreading disease and sexual harassment (World Bank 2014). Recently, the Rustenburg local municipality announced the intention to formalise some of the informal settlements to reduce the conflicts that arose from unsatisfactory municipal services (SABC News 2020). These conflicting issues contrast the claims of the mines presented in Table 9.2.

Moving from Conflict to Harmony in Rustenburg and Its Surroundings

The causes for the apparent rise in violent mining-related protests in the Rustenburg area are diverse, as more community's demand to be heard, not only by the government but by all relevant stakeholders (Bench Marks Foundation 2012; Lancaster 2018). Most communities protested against unequal wealth distribution, by stating that achieving the constitutional right and protected socio-economic rights is a challenge based on the current scenario (James 2018). This perceived injustice was assumed to lead to resentment, leading to a disenfranchised population poorly equipped to deal with the mining industry. The critical concern is that mining companies are unable to fulfil the obligations stipulated in their reports and websites, as presented in Table 9.2. More so, social and labour plans are not always transparent to the public. Furthermore, various impacts on the environment and humans are on the rise, including the increasing prevalence of HIV/AIDS cases and other social crises as a result of the living conditions in the area (Lagercrantz and Khabbaz 2019; Steele et al. 2019).

It cannot be argued that mining companies in the Rustenburg area have commitments towards their host communities, hence neglecting or ignoring the plight of community members will result in continuing protests by agitated and embittered communities. Therefore, mines ought to see the communities around them as part of their constituencies. Vibrant community representatives and enhanced delivery of local government service, including communication between communities and mines, would

contribute to a change and help in conflict resolution. Improved communication will not only promote informed group decision-making, but will also address inequality power structures, allowing for a more level playing field and greater growth potential, leading to more substantial development outcomes, strengthened partnerships and dialogue.

It can be proposed that there is an urgent need in the Rustenburg mining sector for an autonomous problem-solving platform, geared towards sustainable solutions, to solve the prevalent problems between mining companies and their host communities. Factors contributing to conflict in the area include, but are not limited to, the failure to curtail unemployment, provide adequate infrastructure and reduce inequality. These factors contribute to higher rates of discontent (Adler et al. 2007; Andrews et al. 2017; Jenkins 2004). Mining companies, however, are not entirely blameless and more effort is needed, especially in the areas of planning, integration and implementation of social and labour plans. Communication, value-driven involvement and community inclusion are some of the ways mining can be a driver for sustainable development in the area. Two-way communication is needed to promote good relations between the mines and their host communities. The relevant communities must also be on board as crucial stakeholders from the onset (Aydin et al. 2017; Gilbert-Jones 2014).

CONCLUSION

Many governments see mining as a path to economic liberation and development. This view is mostly valid at national level, but only a few communities enjoy the benefits of mining. Most of these communities are left to bear the environmental and other associated consequences as evident in the Rustenburg area. The findings from this study revealed various conflicts in the Rustenburg area, of which unemployment and lack of proper housing infrastructure were the main underlying causes. There is evidence of a direct linkage between environmental degradation and the quality of life within the mining communities. Although their reports and websites show that the mines have good strategies in place to meet their corporate social

responsibilities, the evidence of implementation in the area could not be established. Hence, a practical approach, geared toward sustainable solutions, is urgently needed in the Rustenburg mining sector to resolve the prevalent conflicts between mining companies and their host communities. Mining can be more sustainable through good CSR practices by the mining companies with the guidance of effective mining policies put in place by the government. Government and mining companies should work together in creating alternative livelihoods for mining communities that are independent of mining. The case of the Rustenburg platinum mining region has shown that a good intention by mines on paper does not necessarily translate to community satisfaction, which ultimately leads to conflict with the communities being at the receiving end. Over-reliance on mining for sustenance by host communities is not sustainable. Sustainability in mining will depend on transparency in the mining sector and open consultation with communities and local government.

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Chapter 10

**SOCIO-ECONOMIC OPPORTUNITIES
IN THIS MINING TOWN:
DO WOMEN BENEFIT?**

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ABSTRACT

Socio-Economic Opportunities in This Mining Town – Do Women Benefit? investigates opportunities for women in the mining industry in Rustenburg and focuses on gender inequalities. The mining industry is known as a masculine society. Despite South Africa's long mining history, the literature on women's socio-economic status in mining towns is scarce. Using individual and household surveys conducted in Rustenburg, the chapter compares the situations of men and women living in the same household, female-headed households, and female partners in male-headed households. As employment of men on the mines is high and women employment very low, women in Rustenburg are economically dependent on their male partners. More female partners than males say they feel a

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need to change their lives. Female-headed households are worse off than female partners of male-headed households. If they earn a monthly income, it is less; more of them reside with elderly people; they are more exposed to crime; and they also consider their household's income to be lower than five years ago, despite being on the same level of poverty as their counterparts five years ago.

Keywords: mining town, women, South Africa

INTRODUCTION

Natural resources such as the platinum group metals found around Rustenburg, drive the local economy and provide employment opportunities. However, the benefits bring with it several negative externalities which are often disproportionately experienced by women. Globally, in mining communities, men are more readily employed by mines, with far fewer opportunities for women (Gibson 1992; McLeod and Hovorka 2008; Sharma 2009, 2010). Migrant women, for example, find it difficult to obtain jobs, promoting their economic dependency on men, which leaves them vulnerable to violence and lowers their overall quality of life. This position of women raises questions such as: To what extent do women benefit from the mining activities in Rustenburg? What are the differences between women who are household heads, *vis-à-vis* those who are partners of male mineworkers, in terms of benefits such as employment, income and perceived quality of life?

Despite the importance of these social issues, there is a surprising lack of research on the impact of mining activities on women in communities such as Rustenburg (Gibson 1992; Pretorius 2019; Sharma 2009, 2010). This chapter adheres to the call for research that focuses on the role of women in mining communities. We investigated the socio-economic status in terms of employment, income, as well as their perceptions on quality of life. The unique data set on Rustenburg enabled us to delve deeper into these issues and compare the socio-economic dynamics between men and women living in the same household, as well as between women heading a household and

those living as a partner in a male-headed household. With male employment relatively high and female employment very low, women are economically dependent on their male partners – similar to findings in the literature. More female partners feel the need to change their lives, compared to males. Women heading a household are worse off than female partners: if they earn a monthly income, it is less; more of them reside with elderly people; they are more exposed to crime; and they also consider their households to be poorer than five years ago; despite being on the same level of poverty than the female partners five years ago.

LITERATURE

Generally, the presence of natural resources stimulates economic growth and development (Organisation for Economic Co-Operation and Development 2011). Empirical work, however, suggests that rich endowments of natural resources do not necessarily lead to economic development (Di John 2011). Many studies indicate that not only are natural resources a double-edged sword; it can, in fact, sometimes be more of a curse than a blessing.

Frankel (2010) conducted an overview of the literature in this regard and investigated the question from a macroeconomic perspective. Five factors that jointly determine the extent to which the expected positive economic outcomes from resource endowments will be realised, are discussed. These include the level and stability of resource prices on the international markets; the occurrence of civil wars; the quality of national institutions; and the presence of the so-called “Dutch Disease”¹ phenomenon.

Analysing the impact of natural resources on a more micro level, especially from the perspective of communities living in the vicinity of

¹ The term was developed in 1977 by The Economist. It describes the decline of the manufacturing sector in the Netherlands after the discovery of the large Groningen natural gas field in 1959 (The Economist 1977). In general, it refers to a possible causal relationship between the economic development of a specific sector (for example, natural resources) and a decline in other sectors (for example, manufacturing sector or agriculture). See Corden and Neary (1982) for a detailed explanation.

mines or oils fields, necessitates alternative questions rather than merely determining whether mining stimulates economic growth and export opportunities. At community level, the social impact of these natural resource-related economic activities requires investigation over time. There are indeed some studies (notably in Australia) that did investigate the social impact of mining on communities. Lockie et al. (2009) used census data to conduct such a study on several coal mines in Australia. Three broad issues received attention, namely what the impact of the coal mining activities was on the demand for labour; the social interactions that developed as a result of these activities; and the effect of the relocation on the families of the workers. The authors specifically found a significant increase in the population (especially temporary residents) and a larger proportion of males. All these communities experienced a shortage of housing. The higher demand for skilled workers was accompanied by a decrease in the rate of unemployment. The adverse effects of mining included a lack of social cohesion, as a result of new entrants in the community, as well as increased levels of crime.

Other studies (for example, Doukas, Cretney and Vadgama 2008) confirmed the higher levels in income witnessed in mining towns. However, this newly found wealth often leads to alcohol and drug abuse in these communities. Issues of alcohol abuse are a common theme in the literature. Mining communities are said to consume more alcohol than any other area with roughly the same size and employees of mining companies consume high quantities of alcohol most days of the week (Sharma 2009). In her study on the well-being of families of male mineworkers living in remote mining towns in Australia, Sharma (2009) confirmed higher levels of alcohol consumption by workers; this is often linked to men's preferences of spending leisure time with co-workers. These examples embody the patriarchal culture that is often present in mining towns – marginalising women in the process and straining marital relationships (Sharma 2009).

In a comprehensive study, Hijkowitz, Heyenga and Moffat (2011) investigated the quality of life in 71 Australian mining districts. On the positive side, the mining activities brought with it more employment opportunities, particularly in the rural areas. These were accompanied by

higher levels of income, better training opportunities and improved communication infrastructures. Negative externalities were found to be lower life expectancy and increased inequality between the beneficiaries of the new better-paying job opportunities and those not fortunate enough to be taken up in the labour force.

One study from the discipline of Sociology did focus on the different social groups in the more remote mining communities. In this study, Scott, Carrington and McIntosh (2012) conducted several individual interviews and consulted several focus groups in mining towns in Western Australia. They found that these communities, for the most part, did not function as an integrated unit. People that moved into the area changed the composition of these communities, often resulting in fear of crime. Furthermore, the unique working conditions of mineworkers, such as working in shifts, put pressure on family lives and relationships within the family structure. Among the identified issues were inadequate communication between family members and a patriarchal culture, where the men had much more power than women in their relationships (Scott et al. 2012).

Sharma (2010) emphasised the lack of research on the impact of mining activities, specifically on women in these communities. Her study on the status of women in the mining towns in Queensland, Australia, attempted to address this gap. The first observation was that there were 1.15 men for every woman. This ratio was higher than the national figure and is an indication that women in these communities were relatively worse off than men in terms of health, as well as cultural and economic status (Sharma 2010). Women in this study also had a smaller circle of friends and weaker social networks than men. The labour force participation rates of women were also significantly lower than that of men. Only 8.9% of the men did not form part of the labour force, opposed to 32.1% of women (Sharma 2010). Although women have gradually gained access to lucrative jobs in the coal-mining production process, the number of women mineworkers remained relatively small, with mostly male full-time employees (Gibson 1992). The predominance of men in mining jobs is the main reason for the patriarchal culture in mining towns (Sharma 2009).

Because mineworkers work in shifts, many of the women do not work but stay home to take care of the family. As a result, only 29.4% of the women work full-time, of which only 10% were related to mining (Sharma 2010). Shift work poses unique challenges. Fatigue generated by shift work could limit the ability of mineworkers to fulfil their domestic roles. Long periods of absence – whether due to work shifts or leisure time spent with colleagues – could affect the emotional and social well-being of their dependents (Sharma 2009). The detrimental effects of shift work are also visible in the Canadian newsprint industry. Preston et al. (2000) conducted in-depth interviews with 90 predominantly male newsprint millworkers and their spouses. Their findings concurred with the Australian studies in that the onus for adjusting to shifts fell mainly on the spouses of millworkers (Preston et al. 2000). The spouses felt inhibited in their options in terms of employment and childcare, given the demanding shift schedules of their partners (Preston et al. 2000).

The shift work system and the limited number of flexitime jobs in mining towns not only marginalise female partners to domestic chores but accentuate the economic dependence of women on their husbands or partners (Sharma 2009). Sharma (2010) concluded that the economic vulnerability of the women in her study deepened because their income was only half of the earnings of their male counterparts. As a result, women were often marginalised and were inherently socially and economically dependent on their partners (Preston et al. 2000; Sharma 2009, 2010).

Both international and local literature extensively documented that resource towns are typically “male spaces”, where the interests, issues and needs of the male population dominate in a patriarchal dispensation (Gibson 1992; Mayes and Pini 2008; Preston et al. 2000; Pretorius 2019; Sharma 2009, 2010). A recently developing strand of the literature suggested that women’s prospects and roles in towns that depend on natural resources may not always be as limited and negative as are usually indicated in research (Gill 1986; McLeod and Hovorka 2008). For example, a study of household economies in McKenzie in British Columbia, which are dependent on forestry, and in Tumbler Ridge in British Columbia, which are dependent on mining, found that the traditional role of males in the labour force and

women at home was not visible during downturns in the resource sectors (Halseth and Ryser 2004).

The limited literature on the socio-economic status of women in mining towns extends to South Africa as well.² Pretorius (2019) and Sesele (2020) are notable exceptions. The study by Pretorius (2019) focused on the mining town of Emalahleni, a local economy dependent on coal in the Mpumalanga province in South Africa. Qualitative interviews with local stakeholders revealed several issues of concern for women in the mining community: high levels of domestic violence, alcohol and drug abuse, school children being abused as drug mules, high unemployment rates among women, as well as little or no hopes of obtaining future employment among school girls (Pretorius 2019). At the same time, those who did receive a monthly income earned much less than male employees in the same or similar jobs. The women in Emalahleni were economically vulnerable. It is no surprise that the female partners of male mining employees were, in most cases, less satisfied with their quality of life than females heading their households (Pretorius 2019). Sesele (2020) argued that the mining industry is a double-edged sword afflicting women. First, the mining industry excludes women from equal employment opportunities and, secondly, reinforces the household role of women.

Rustenburg in South Africa is a classic example of a resource-dependent community, experiencing swings in fortunes, with a recent downswing in mining activities. This chapter, therefore, builds on this growing body of literature by widening the focus to include not only the wives and partners of mineworkers, but also women who may not have benefitted directly in the past from mining activities. In doing so, we attempt to broaden conceptualisations of resource towns as only “male” spaces and accentuate the often-multifaceted roles, experiences and fundamental contributions of all women to the socio-economic dispensation of a mining community such

² The number of women working in South Africa’s mining sector has increased considerably in the past 15 years. In 2002, the number was around 11 400 and increased to about 53 000 in 2015 and to 54 154 in 2018. In 2018, women represented 12% of the total mining labour force of 453 543 (Minerals Council South Africa 2020).

as Rustenburg. This objective informs the empirical strategy discussed in the next section.

RUSTENBURG BACKGROUND/SETTING³

Rustenburg is situated in the North West province of South Africa, which, unlike some remote mining towns referred to in Australian literature, is well connected to the rest of the country by good transport routes. It is one of the six major South African towns considered to be substantially dependent on mining. In 2017, mining contributed 75% to the gross value added of Rustenburg (Rustenburg Local Municipality 2017). Similar to Middelburg, Emalahleni (Witbank), Secunda, Sasolburg and Thabazimbi, Rustenburg displays some of the highest levels of gross domestic product per capita in the country (Editor, Federation for a Sustainable Environment 2018). In 2015, the average household income per annum in South Africa was R181,579; yet for the North West province, in general, it was lower at R151,596, while the income for Rustenburg, at R194,414, was higher than the provincial and national average (Rustenburg Local Municipality 2017).

The economic benefits associated with mining are also reflected in the relatively low unemployment rate for Rustenburg. In 2017 the national unemployment rate (official definition) was 27.2%, while the rate for the North West province was 28.4%, and Rustenburg only reported an unemployed rate of 25.1% (Rustenburg Local Municipality 2019).

The overall population structure is typical of what one would expect from a mining town attracting migrant workers. The percentage of the population in the age group 20–59 was higher than the national average, while there were fewer younger persons (younger than 19) and also fewer older persons (older than 60). Specifically relevant for this chapter, the ratio of male to female residents in 2017 was 1.18:1 (Rustenburg Local Municipality 2019). While females generally outnumber males, the roles are reversed in mining towns (see Sharma 2009, 2010).

³ For further background information on the economy of Rustenburg, see Chapter 5.

STUDY DESIGN

The empirical analysis is based on individual and household surveys completed in the Rustenburg Local Municipality towards the end of 2018 as part of the overall study that this book is based on. The study used a questionnaire similar to the National Income Dynamic Study (NIDS) survey conducted by the Southern Africa Labour and Development Research Unit at the University of Cape Town. Two primary surveys were analysed: household surveys completed by one member of the household on behalf of the household and individual surveys.⁴

This chapter uses a comparative analysis as its research design. We compare the perceptions and socio-economic conditions of men and women living in the same household, as well as those of female-headed households and female partners in male-headed households in Rustenburg. The topics include issues of economic dependency of females on their male partners, income disparities between female-headed households and female partners and perceptions of crime, pollution and quality of life.

RESULTS

Individual Interviews: Male-Headed Households versus Their Female Partners

Demographic Information

The first part of the analysis focused on the individual surveys completed by members of the same household. For 148 of the 296 households covered, the individual survey was completed by both the person identifying themselves as the household head and the partner of the household head. In 131 of the households, male persons identified themselves as household heads, while 17 females indicated themselves as heading the household. Following the general trend as in the Australian

⁴ For further information about the surveys, see Chapter 1.

literature, the socio-economic position and perceptions of the male-headed households were compared to that of their female partners.

The typical female partner was younger than her male household head (see Table 10.1). They underwent the same number of years of formal schooling. Only 16% of the male respondents were not born in Rustenburg, compared to 11.5% of the females. These individuals, born elsewhere, have been living in Rustenburg for more than 12 years. This can be an indication that Rustenburg is not a newly established, booming mining town, but a long-established one with a history of up and downswings in fortunes, similar to Emalahleni.

Table 10.1. Demographic information of the male-headed household and his female partner

Demographic information	Average for males	Average for females
Age	43.7	37.7
Years of schooling or training	10.7	10.9
Born in Rustenburg	84.0%	88.5%
Period residing in Rustenburg (if born elsewhere)	14.95 years	12.3 years

Labour Market Status

Almost 76% of the male-headed households were employed and earned a monthly income, while it only applied to 19% of their female partners (see Table 10.2). At 10.3% (calculated as 12/116), the unemployment rate for the male-headed households was much lower than the national, provincial or municipal rate. The same was not valid for female partners. The 45 females who would have liked to work but were unemployed, translated into an unemployment rate of 53.6% (calculated as 45/84). This is much more than the national female unemployment rate of 29.8% (Statistics South Africa 2019). As is the case in most mining towns across the globe (Gibson 1992; McLeod and Hovorka 2008; Sharma 2010), these women were therefore economically dependent on their male partners. The survey did include a

question on monthly income, but in most cases, the respondents refused to answer. There were, however, indications that the males received a median income of R16,000, compared to R10,500 for females, again corresponding to international literature which suggests that women earn significantly less than male counterparts in mining towns (McLeod and Hovorka 2008; Sharma 2010). The wives and partners of male mineworkers in Rustenburg were economically vulnerable with possible adverse consequences for their overall quality of life.

Table 10.2. Labour market status of the male-headed household and his female partner

Labour market status	Males		Females	
	Number	%	Number	%
Earn monthly salary/wage	99	75.6	25	19.1
Working for themselves	5	3.8	14	10.7
Would have liked to work but were unemployed	12	9.2	45	34.3
Economically inactive	15	11.4	47	35.9

Male-Headed Households and Female Partners' Perceptions on Quality Of life

The survey included a few statements based on the respondents' perceptions of their quality of life. Again, responses to these questions were quite sparse and no statistically significant conclusions can be drawn from it. Table 10.3 summarises the scores that were reported. The respondents had to indicate to what extent they strongly agree (7 on the scale) or strongly disagree (1 on the scale) with the given statements.

Table 10.3 shows that there are some indications that the women who did earn a monthly income felt that workplace demands did interfere with their family life, which was not the case for the men. Females were less inclined to feel that "life is excellent" and they were more likely to feel they would like to change their lives. Ideally, one would have preferred to compare the mean values and use inferential statistics to compare whether these differences were statistically significant. The low response rate (34

from 262) unfortunately made it impossible to confirm the statistical significance of the differences in responses and this is an important subject for future focussed research attention.

Table 10.3. Perceptions in terms of quality of life

Statement (Scale of 1–7)	Males		Females	
	Average	Median	Average	Median
The demands of my work interfere with my home and personal life	3.4	2.0	4.5	5.0
In most ways my life is close to my ideal	4.6	4.0	5.5	6.0
The conditions of my life are excellent	4.9	5.0	4.5	5.0
I am satisfied with my life	5.1	6.0	6.0	6.0
If I could live my life over, I will change almost nothing	4.1	4.0	3.5	3.0

Household Interviews: Female-Headed Households versus Female Partners of Male-Headed Households

Demographic Information

The second part of our analysis focused on two samples of women in Rustenburg. The data was obtained from the questionnaires completed on behalf of the specific households. This questionnaire differed from the one used in the previous section and will, therefore, cover different topics. A total of 945 household surveys were conducted, of which female respondents completed 376. Of these 376, 202 indicated their position in the household as that of the household head, while 174 identified themselves as the female partner of the household head. These two subsamples (household heads versus partners) allowed us to compare the socio-economic positions and perceptions on the quality of life of women according to their role, standing or position in their specific households. Therefore, the analysis that follows deviates from the general trend of comparing the position of women in mining towns with their male partners, regarded as the head of the

household. The specific contribution to the literature and an added dimension here is the comparison of two groups of women living in a mining town. One group identified themselves with a supportive role as a partner in the household, while the other group had to carry the burden as head of the household.

Table 10.4. Demographic information of female-headed households and female partners of male-headed households

Demographic information	Average for female-headed households	Average for female partners of male-headed households
Age	42.2	35.7
Years of schooling or training	9.6	10.7
Born in Rustenburg	90.6%	86.8%
Period residing in Rustenburg (if born elsewhere)	17.7 years	14.8 years
Individual monthly income	R8 782	R15 554

The women bearing the responsibility of household heads were slightly older than their partners; they typically had one year less formal schooling and they were somewhat more likely to be born locally (see Table 10.4).

The households headed by a woman on average consisted of 2.45 persons, compared to the 3.32 of the households headed by a man (see Table 10.5). There were also more adults in households headed by a man. Only 29.4% of adults in households headed by a woman were employed, compared to 43.4% of adults in a male-headed household. The percentage of adults employed by mines was almost three times lower in female-headed households: 10.3% compared to 29.6%.

Based on the four respondents who answered the question, the average individual monthly income of female-headed households was almost half that of the female partners. Nearly 33% of households headed by a woman received a child support grant, compared to 29% of households headed by a man. Thirteen percent of households headed by a woman received an old-age pension as part of the household income, compared to only 2% of male-

headed households. The one common factor across all households was the lack of mining-related employment for women. Only 6.4% of all women responding as household heads were employed by mines, quite similar to the 5.2% responding as partners of household heads.

Table 10.5. Demographic information of female-headed and male-headed households

Demographic information	Average for female-headed households	Average for male-headed households
Household size	2.45	3.32
Household adults	1.76	2.17
Percentage of adults employed	29.4%	43.4%
Percentage of adults employed by mines	10.3%	29.6%
Respondents employed by mines	6.44%	5.17%
Child support grant	32.67%	28.74%
Old-age pension	13.37%	2.30%

The limited opportunities in mining for women in mining towns have also been a universal theme in Australian literature. Mayes and Pini (2008) reported that, according to the Minerals Council of Australia, in 2006, women represented just 3% of all employees at mining sites and in minerals processing operations in that country. This gendered occupational segregation in mining towns remains the same characteristic of the current sector today as it has been for decades (Mayes and Pini 2008).

Perceptions of Female-Headed Households and Female Partners of Male-Headed Households Relating to Crime, Pollution and Quality of Life

The household questionnaire included questions relating to crime, pollution and perceived quality of life. Table 10.6 reports the mean score per group for each statement based on a 3-point, 5-point or 6-point scale as indicated. The last column indicates whether the differences in the responses

from the two groups are statistically significant and, if so, at what percentage.

The first section of Table 10.6 covers perceptions regarding crime. The respondents were asked to indicate how common certain events were in their neighbourhood. The actions included: burglaries, muggings or theft; drug or alcohol abuse; domestic violence; violence between members of different households; gangsterism; as well as murder, shootings or stabbings. On the scale, a value of 1 indicated “never happen” and 5 indicated “very common”. They also had to indicate the likelihood that a lost purse containing contact details, would be returned by someone living in the same neighbourhood or a complete stranger. A value of 1 represented “not at all” and a value of 3 “very likely”.

The mean scores from the women acting as household heads were higher than the scores of the female partners in all the crime-related statements. This difference is an indication that this group experienced such crime-related actions much more often and as much more common than their female partners. Four of the differences were significant at 1%, one at 5% and one at 10%. Responses to the statement referring to the lost purse indicated that the women, in general, do not trust a stranger to do the right thing and return someone else’s belongings. Although only statistically significant at 7%, the female partners put more trust in their neighbours than the household heads.

Since the Rustenburg economy is based on platinum mining, the second part of the table includes statements regarding the economic benefits and pollution cost of such mining operations. A score of 1 was awarded if the respondent “strongly disagreed” with the statement and a score of 5 if the respondent “strongly agreed”. The reported scores of close to 4 indicate that all women agreed that the mining activities in their mining town do lead to air pollution, water pollution and health problems. The slight difference in mean values is not statistically significant. An interesting, and perhaps to be expected, difference can be observed in the reaction to the statement that platinum mining benefits the local community. The female partners were more inclined to agree with this statement and the difference in mean response is statistically significant at 1%. Table 10.5 shows that the

percentage of adults employed in mines is three times higher in male-headed households than female-headed households. The reported monthly income per female respondent was also higher in male-headed households compared to female-headed households. This again corresponds to international experience in, for example, Australia (Gibson 1992; Sharma 2009).

Table 10.6. Responses of female-headed households and female partners of male-headed households to qualitative statements

Response to qualitative statements	Head	Partner	Level of significance (α)*
Crime			
Lost purse returned by resident (1–3)	1.17	1.27	7%
Lost purse returned by stranger (1–3)	1.09	1.07	63%
How common are burglaries/muggings/theft in the neighbourhood? (1–5)	3.6	3.1	10%
How common is drug and alcohol abuse in the neighbourhood? (1–5)	4.1	3.5	0%
How common is domestic violence in the neighbourhood? (1–5)	3.6	2.9	0%
How common is violence between members of different households in your neighbourhood? (1–5)	3.5	2.9	0%
How common is gangsterism in your neighbourhood? (1–5)	3.5	3.2	3%
How common is murder, shootings or stabbings in your neighbourhood? (1–5)	3.6	3.1	0%
Pollution			
Platinum mining activities lead to air pollution (1–5)	3.9	3.9	69%
Platinum mining activities lead to water pollution (1–5)	3.9	3.7	72%
Platinum mining activities lead to health problems (1–5)	3.82	3.76	48%
Platinum mining benefits the local community (1–5)	2.44	2.84	1%
Quality of life			
How strong is your preference to keep living in this area? (1–5)	3.69	3.45	12%
Six-step ladder (6 = richest) – On which step is your household today?	2.31	2.56	4%
Six step ladder (6 = richest) – On which step was your household 5 years ago?	2.35	2.29	63%
Change in steps in the last 5 years	-0.04	0.26	0%

* Statistical significance measured using t-test, Satterthwaite-Welch t-test, ANOVA F-test and Welch F-test.

The last section of the table deals with statements related to perceived quality of life. The first statement asks for an indication of the women's preference to keep living in their current area (1=strong preference to stay; 5=strong preference to leave). With both mean scores above 3, most women would prefer to leave their current place of residence. The female-headed households were more eager to leave, which was not surprising, given their reported experience of crime and a lack of trust of their neighbours as well as lower levels of income as reported earlier.

Given the general low response rate to questions regarding income levels, alternative subjective indicators of wealth or socio-economic position are found in literature that includes a wealth index (or asset index) or "economic ladder questions", where respondents had to position their households on a ladder with the poorest on the bottom step and the richest on the top step.⁵

Von Fintel (2015) mentioned several South African studies reflecting on how well an individual or a household is doing and what the influence of their perceived position about their reference group was. Most of these studies focused on the NIDS data set that was representative of the whole of South Africa. Posel (2014) found that the majority of adults in South Africa did not perceive their economic rank as having improved in the first two waves of NIDS. Additionally, they reported lower prospects of upward economic mobility in the future. Much less such research is available in sectors such as mining, which, although shrinking, still employs a significant percentage of participants in the South African labour force. The determinants of subjective income ranking in mining communities can assist researchers to reflect on the socio-economic dynamics and quality of life within these communities. The overriding issue seems to be that despite positive outcomes in terms of income for miners, the question remains: How do they perceive themselves in terms of their community?

The household survey on Rustenburg enables us to explore these issues – with the results reported in the last few rows of Table 10.6. First, they had to indicate the current position of their household on a six-step ladder with

⁵ See for instance, Howe et al. (2011) for a case study on Malawi.

the lowest step the poorest households in South-Africa and the richest households in the country on the sixth step. In the second question, they had to indicate the position of their household five years ago. The average response was a step below three. Women living in Rustenburg households thus considered themselves to be among the poorest half in the country. There is, however, a statistically significant difference between the perceived socio-economic position of the household heads, compared to the partners. Women heading a household regarded themselves as poorer, compared to the female partners of the same mining town. The responses to the second question indicated that the roles were reversed five years ago. The perception is that the female-headed households were richer than the male-headed households five years ago. Because this difference is not statistically significant, one can assume that these two groups at least considered themselves to be on the same step of the ladder five years ago. However, the female-headed households considered themselves to be currently poorer, while the female respondents of male-headed households considered themselves to be richer than five years ago. This observed change is statistically significant and reflects the additional financial pressures often experienced by female-headed households, who are often solely responsible for the material needs of their households with limited support structures.

CONCLUSION

Unique data obtained in the mining town of Rustenburg allowed for a comparison between men and woman living in the same household, as well as between women heading a household and those living as a partner in a male-headed household. The empirical study thus offers two main additions to current literature: first, it contributes to the limited South African literature on the socio-economic situation of women in mining towns in general; and second, it broadens the scope to also include women living in mining towns not only as partners or wives of mineworkers. The picture of women and men emerging from the Rustenburg data is quite similar to those of other mining towns. The male employment rate is much higher than the

national, provincial and municipal rate, while the female unemployment rate is much higher than all three comparable rates. The women are, therefore, economically dependent on their male partners and do not benefit directly from the lucrative employment opportunities offered in the mining and related sectors. These female partners are less likely to describe their lives as excellent, compared to their male partners, and more inclined to feel that they want to change their lives.

The comparison between female partners and household heads indicated a few similarities amid a mostly different picture. The very small percentage of women employed by mines is the same across all households, regardless of the position of the women in the households. All households are equally likely to receive a child grant, irrespective of the household structure. In the rest of the picture, women heading of households are worse off. Those that do earn a monthly income receive less. Percentage-wise more of them reside with older people who receive an old-age pension. This worse economic situation is reflected and confirmed in their observed perceptions. They reportedly are more exposed to crime in their neighbourhoods, they display a lower level of trust in their neighbours and they are more inclined to leave their current place of residence. Above all, they consider their households to be relatively poorer than five years ago, despite being on the same level of poverty than their counterparts five years ago. They are, therefore, much more vulnerable and less satisfied with their quality of life than female partners, despite displaying the same labour force characteristics. Although not directly benefitting from lucrative mining employment, female partners of men who do benefit economically, consider themselves to be in a better socio-economic position compared to women heading a household.

The economic dependence of women in mining towns on their partners can be a double-edged sword. Dependency brings vulnerability and with South Africa's scourge of domestic violence against women, this level of dependency may make it very difficult for women to exist financially independent from their partners, should the need arise. Apart from the women living with mineworkers, the other group of women in this mining town is even more vulnerable. Most of them are excluded from lucrative job opportunities in mining and related sectors and also do not benefit indirectly

via a partner. They also experience higher levels of domestic violence than the female partners. From a policy perspective, this is an important scenario that warrants attention and action. Without the need for extra funding, the existing budgets from departments of social and economic development or local economic development can, for example, reprioritise existing budgets to design and implement programmes and actions to enable women in mining towns to increase their financial independence through entrepreneurship training and funding already earmarked for enterprise development.

The exact nature and extent of such coordinated policy efforts must be the result of a dedicated, participatory process during which the needs of these vulnerable women are determined by their own voices. Hearing the voices of these women in this regard can be the first step in adding their voices to that of society as a whole, benefitting future generations of all women in mining towns.

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Chapter 11

**SUSTAINABILITY REPORTING:
A CASE STUDY OF IMPRESSION
MANAGEMENT IN RUSTENBURG**

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ABSTRACT

Sustainability Reporting: A Case Study of Impression Management in Rustenburg, South Africa investigates the quality of mining companies' reporting. Local communities in Rustenburg do not see eye to eye with mining companies about the companies' impact on them. They have experienced only a marginal improvement in their socio-economic status. In contrast, external company reports create the impression that company investment in socio-economic development has brought significant improvement. Comparing community and key informant interviews with the mining companies' information, the chapter shows that mining companies are using external reporting mainly to create a positive impression of their investment in the local communities, so as to attract and

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retain investors. The failure to reflect the actual and adverse impacts on local communities in these reports signals the need to reconsider local communities' right to information and report accurately and usefully.

Keywords: impression management, non-financial reporting, socio-economic status, sustainability reporting

INTRODUCTION

Modern investors are increasingly interested in companies' non-financial reporting. Investors in mining are no different. Because of the visible impact that mining activities have on the environment, non-financial reporting in the mining industry tends to focus on social and environmental issues. Companies also make more use of non-financial reporting, as research has shown a direct link between the quality of non-financial reporting and the company's financial performance.

The guidelines for companies to prepare non-financial information are the Fourth-Generation (G4) Guidelines of the financial performance (GRI), as well as the Integrated Reporting Framework (hereafter IR Framework) issued by the International Integrated Reporting Council (IIRC 2013). Although both the G4 Guidelines and the IR Framework recommend that companies disclose social, economic, governance and environmental information, the focus of each of these guidelines differs. Information included in sustainability reports is prepared based on the G4 Guidelines, whereas information contained in integrated reporting is based on the IR Framework. Information based on the G4 Guidelines provides detail on the economic, social and environmental impact of a company's activities in a specific year. Information based on the IR Framework is more forward-looking and strategically oriented, as companies report on how their business activities influence value creation of the business in the short, medium and long term. However, both integrated and sustainability reporting guidelines recommend that companies report on their impact on the community in which they operate.

Defining the impact that companies have on communities is not an easy task, and the G4 Guidelines guide companies in what to report in terms of impact assessments, development programmes, as well as the actual and potential negative impacts on local communities (GRI 2013a). When applying these guidelines, companies, therefore, use non-financial reporting to communicate their impressions and to manage their reputation (De Villiers and Alexander 2014; De Villiers, Low and Samkin 2014). Despite the fact that companies report their impressions of the impact they have on communities, the communities may have a different opinion. This difference in perception is reflected in the growing opposition of communities towards mining operations in their area (Zhuwarara 2019). Opposition from communities is the result of insufficient recognition by the government and the companies. Communities also expect that the benefits of hosting the mining activities should flow to them, which is not always the case, as mining has proven to contribute to lowering poverty rates but increasing inequality (Andersson et al. 2015). The increased inequality is more obvious when the distance between the community and the mine increases. Furthermore, communities have complained about the negative impact of mining on agriculture, health and woman empowerment (Andersson et al. 2015).

This chapter, therefore, focuses on the perceived impact on communities by the listed platinum mining companies in Rustenburg, South Africa, by comparing the integrated and sustainability reports of these companies to the results of household questionnaires and key informant interviews. The comparison demonstrates the disparity between the opinion of the communities and the listed mines operating in the Rustenburg area, regarding the impact these mines have on the local community.

DEVELOPMENT OF NON-FINANCIAL REPORTING AND IMPRESSION MANAGEMENT

Companies in environmentally sensitive industries tend to issue more non-financial information than those not affecting the environment (De Villiers and Alexander 2014). Approximately 90% of companies that report on non-financial information use the G4 guidelines as a basis for the preparation of reports (Blasco and King 2017). Companies listed on the Johannesburg Stock Exchange (JSE) are no exception as the JSE listing requirements encourage companies to use the G4 guidelines (JSE 2013, 2014).

Reporting on non-financial information is positively related to the financial performance and the reputation of companies. The reporting of non-financial information also improves stakeholder engagement, with specific reference to investors (Mio, Marco and Pauluzzo 2016). The exclusion of local communities from the majority of studies raises questions about the legitimacy of non-financial reporting and may lead to the risk of reputational damage for companies. To mitigate this risk, companies should involve stakeholders, including local communities, in the gathering and preparation of non-financial information (Kannenberg and Schreck 2019).

Until recently, non-financial information, in the format of sustainability reports, has been published as stand-alone reports. In 1997, the Coalition for Environmentally Responsible Economics, with the support of the United Nations Environment Programme, created the Global Reporting Initiative (GRI 2016a). The GRI guides companies on how to report non-financial information related to social, governance and environmental issues. Since its start, the GRI issued several updated versions of the guidance documents and released its G4 Guidelines in 2013. The G4 guidelines provide for more flexibility and transparency in the application of the standards. Although the G4 guidelines are only applicable to reports issued after 1 July 2018, companies are encouraged to adopt the standards earlier than this date (GRI 2018).

Similar to sustainability reporting, integrated reporting also recently developed. Some authors believed that integrated reports combine financial and sustainability reports (Solstice Sustainability Works Inc 2005). Others stated that an integrated report should be more than just a combination of reports and should be a meaningful integration of vital strategic elements within a company (KPMG 2010). The IIRC (2011) stated that integrated reporting seeks to integrate the effect a company has on the society through the use of the different resources and capitals, namely human, natural and social, as well as financial, manufactured and intellectual capitals. The IR Framework assists companies in achieving this integration.

Application of the G4 guidelines and the IR Framework has not been without challenges. These challenges include increased cost, length and complexity of reports, as well as the potential loss of valuable information. However, applying these types of reports has proven to improve communication with communities, integration of financial and non-financial information, a better understanding of the value creation process and embedding sustainability information in external reporting (Bhasin 2017). The inclusion of narrative non-financial information in external reports have also shown a remarkable correlation to the financial performance of companies and an increase in reputation, company value, expected cash flows and increased liquidity. Many authors have reported on the link between quality non-financial reporting and financial performance of companies, for example Barth et al. (2015, 2017), Blasco and King (2017), Churet et al. (2014), JSE (2014), Lee and Yeo (2016), Önder (2018); Torrence (2017) and Wen, Kiew Heong and Chee Hooi (2017).

Managing a company's reputation through narrative reporting is called impression management. The core of impression, is that management reports on, or withholds information that achieves specific outcomes. Research shows that the management of companies uses their discretion with narrative reporting to protect their interests and that the information contained in formal reports is not aligned to other information that is available in the public domain (Casonato, Farneti and Dumay 2019). Although impression management shows a direct link between non-financial information and increased reputation of companies, local communities may not agree with

the impression portrayed in the reports. The use of sustainability and integrated reports for impression management has been studied by Beretta, Demartini and Trucco (2019), Casonato et al. (2019), Diouf and Boiral (2017), García-Sánchez, Suárez-Fernández and Martínez-Ferrero (2019) and Melloni, Stacchezzini and Lai (2016).

RUSTENBURG CONTEXT AND REPORTING ON COMMUNITY IMPACTS

In 2016, the South African Human Rights Commission held national hearings to investigate the socio-economic challenges of mining-affected communities in South Africa. The hearings brought to light the lack of coordination and cooperation by the mining industry, in general, as well as the continued level of poverty and systematic inequality experienced by mining communities in South Africa. Although the report focussed on different socio-economic factors such as water, land issues, housing and environmental issues, it highlighted specific aspects related to remote mining communities in the country. These issues included inadequate basic services, poor infrastructure, high levels of unemployment and high poverty levels (South African Human Rights Commission 2016).

Adding to the general findings on mining, the Eunomix Research Report (2016) highlighted socio-economic problems in Rustenburg. This report included the high level of migrant labour, the high level of HIV, high crime levels, lack of access to formal education, poverty levels, housing backlogs and a deficit of governance. The report highlighted the communities' dependence on the platinum mines as well as the continued impact of the 2012 and 2014 Lonmin strikes on socio-economic problems in the area. The report further highlighted the positive impact of the mining companies in Rustenburg, as the majority of employers in the area invest in education, skills development, HIV programmes, housing developments and development of local infrastructure (Eunomix Research 2016). The report recommended more strategic investment in communication and improved

coordination of sustainability projects. Additionally, Eunomix (2016) requested the government to invest in economic diversification in the area and for greater cooperation between the government and the mining companies.

The reporting on these recommendations is guided by the G4 guidelines. The G4 guidelines provide the GRI 413 document on Local Communities, along with the Metals and Mining Sector Guide as guidance to companies to report on their impact on local communities (GRI 2013b). However, these two documents only provide a framework for voluntary reporting and cannot be used as a checklist for reporting, yet the documents provide valuable direction on reading and interpreting information.

Given the socio-economic issues identified in the Rustenburg area, the reporting on the impact of companies on the communities and how they address their impact, became essential. The GRI 413 Standard on Local Communities recommend that companies focus on the following two areas when reporting on their impact on local communities (GRI 2016b):

1. Operations with local community engagement, impact assessments and development programmes.
2. Operations with significant actual and potential negative impacts on local communities.

Additional to the guidance in this document, the GRI sector supplement on mining and metals provide additional guidance on non-financial information. GRI 413 (GRI 2016b) states that companies which choose to use this document, shall report on aspects such as the percentage of operations with implemented local community involvement and how these programmes are assessed for impact and the significant actual and potential negative impacts on local communities (Table 11.1). Additionally, GRI 413 also provides some guidance on aspects of the negative impact on communities that should be clearly addressed in the external reports.

Table 11.1. GRI 413 Disclosure related to local communities

The percentage of operations with implemented local community engagement, impact assessments and/or development programmes, including the use of the following:
<ul style="list-style-type: none"> • Social impact assessments, including gender impact assessments, based on participatory processes. • Environmental impact assessments and ongoing monitoring. • Public disclosure of results of environmental and social impact assessments. • Local community development programmes based on the needs of local communities. • Stakeholder engagement plans based on stakeholder mapping. • Broad-based local community consultation committees and processes that include vulnerable groups. • Work councils, occupational health and safety committees and other worker representation bodies to deal with impacts. • Formal local community grievance processes.
Significant actual and potential negative impacts on local communities:
<ul style="list-style-type: none"> • The location of the operations. • The significant actual and potential impacts of operations.
When reporting on the negative impacts, companies should pay attention to the following:
<ul style="list-style-type: none"> • Reporting on the vulnerability of local communities due to the degree of physical and economic isolation of the community. • The level of socio-economic development, including the degree of gender equality within the community. • The state of socio-economic infrastructure. • The proximity of operations and level of social organisations. • The strength and quality of governance.

When reporting on the exposure of local communities, the information should include the impact of exposure to hazardous waste and the type and volume of exposure to pollution. Information about the status of the major employer in the community, land conversion and related resettlement, as well as natural resource consumption, was recommended. Reports should include the impact of each significant actual or potential economic, social, cultural or environmental impact, as well as the intensity and severity of the impact. Additional reporting should include the likely duration, reversibility and scale of the impact.

EMPIRICAL RESULTS AND DISCUSSION

Introduction

The household questionnaires, key informant interviews and literature suggested that the socio-economic problems experienced in Rustenburg originated from issues such as severe poverty, poor access to education, the occurrence of HIV, high crime levels as well as water and land issues. Although the mining companies operating in the region believe that they have made a significant contribution to alleviating these socio-economic issues, the communities may have different perceptions about their socio-economic status.

Community Perceptions

The household questionnaire asked participants to imagine a six-step ladder where the poorest people in South Africa stand at the bottom (first step) and the wealthiest people in South Africa stand on the highest step (Step 6). They were asked to rate themselves and indicate on which step their household currently was, as well as 15, 10 and 5 years ago. Figure 11.1 depicts the results of this question.

There was a shift in the perceived position of the households' income ladder from 37% on the first step 15 years ago, to just 24% on the first step today. Similarly, there was an increase in the third step, from 22% 15 years ago to 31% today. There was also a marginal increase on the second step from 25% 15 years ago to 28% today. The majority of households, therefore, perceived their position in income to have improved over the last 15 years.

Contrary to these results, 49% of the respondents in Rustenburg believed that it is more difficult for youths to be better off financially than their parents were in August 2012. Another 32% of the respondents believed that it is as difficult for youths as it was for their parents, and only 16% indicated that it is easier for them. The highest level of qualification in the households

of both groups was Grade 12 (56% and 62%, respectively). Both groups also showed that the head of the household does not have the highest qualification (30% and 26%). When comparing the different response groups to the highest qualification for household head and highest recorded qualification in the household, it is evident that in the majority of cases, the household head was not the highest qualified individual.

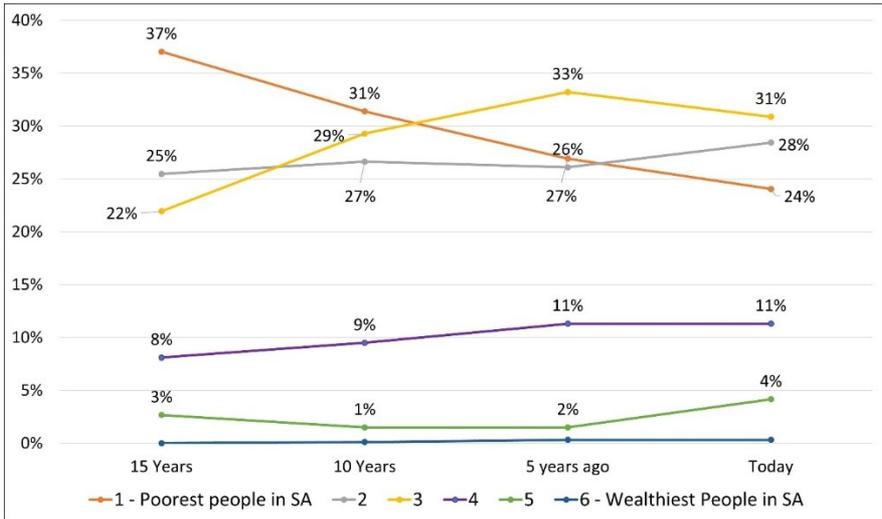


Figure 11.1. Six-step household income ladder.

The community, however, did not share the positive impression of health care and education. From the 759 household respondents, 29% thought that the quality of schools in the Rustenburg area had improved, whereas 38% believed that the quality of the schools remained the same (Table 11.3).

Of those participants that believed the level of education remained the same, 40% of the household heads held either a Grade 11 or Grade 12 as highest qualification. Household heads that believed that the quality of schools in Rustenburg had increased held either a Grade 11 (12%) or Grade 12 (34%) as highest qualification. The highest qualification within these households was Grade 11 or higher (Improved = 65%; Stayed the same = 57%).

Table 11.2. Financial position of youth in Rustenburg

Response	Financial position of youth			
	Percentage (n)	Highest qualification of household heads	Highest qualification in household	Lowest qualification in household
Don't know	3% (22)	Grade 9 = 18% Grade 11 = 18% Grade 12 = 24%	Grade 9 = 12% Grade 11 = 24% Grade 12 = 35%	No schooling = 29% Grade 7 = 12% Grade 11 = 18% Grade 12 = 18%
More difficult	49% (375)	Grade 11 = 14% Grade 12 = 30%	Grade 11 = 17% Grade 12 = 56%	No schooling = 28% Grade 9 = 10% Grade 10 = 10% Grade 11 = 14% Grade 12 = 27%
Less difficult	16% (119)	Grade 10 = 12% Grade 12 = 26%	Grade 10 = 10% Grade 11 = 14% Grade 12 = 56%	No schooling = 28% Grade 6 = 10% Grade 10 = 13% Grade 12 = 30%
About just the same	32% (243)	Grade 10 = 10% Grade 11 = 10% Grade 12 = 30%	Grade 11 = 15% Grade 12 = 62%	No schooling = 34% Grade 8 = 10% Grade 11 = 14% Grade 12 = 27%
Total	100% (759)			

For those that believed that the quality of schools in Rustenburg had gotten worst, 51% of the household heads held a Grade 11 or higher (Grade 11 = 17%; Grade 12 = 35%). The majority of these households (68%) also recorded the highest level of education in the households to be Grade 12 and the lowest recorded qualification in this group, with no schooling, was 36%.

Contrary to the community opinion on the quality of schools in Rustenburg, the community considered the clinics and health services in Rustenburg to have gotten worst (Table 11.4). Fifty percent of the respondents indicated that they believed the quality of hospitals and clinics to have gotten worst. About a third (34%) of the household heads of these groups had a Grade 2 or matric qualification, and 64% of these households reported Grade 12 as the highest qualification in the home.

Table 11.3. Quality of schools in Rustenburg

Response	Percentage (n)	Highest qualification of household heads	Highest qualification in household	Lowest qualification in household
Don't know	13% (96)	Grade 11 = 16% Grade 12 = 18%	Grade 11 = 17% Grade 12 = 28%	No schooling = 23% Grade 5 = 10% Grade 6 = 10% Grade 9 = 10% Grade 11 = 12% Grade 12 = 15%
Improved	29% (219)	Grade 10 = 12% Grade 12 = 34%	Grade 11 = 13% Grade 12 = 65%	No schooling = 32% Grade R = 10% Grade 11 = 11% Grade 12 = 26%
Stayed the same	38% (292)	Grade 11 = 11% Grade 12 = 29%	Grade 10 = 10% Grade 11 = 14% Grade 12 = 57%	No schooling = 27% Grade 9 = 10% Grade 10 = 10% Grade 11 = 10% Grade 12 = 31%
Gotten worse	20% (152)	Grade 10 = 10% Grade 11 = 17% Grade 12 = 34%	Grade 10 = 10% Grade 11 = 27% Grade 12 = 68%	No schooling = 36% Grade 7 = 10% Grade 10 = 12% Grade 11 = 27% Grade 12 = 31%
Total	100% 759			

The communities, therefore, believed that their level of income had increased marginally over the past 15 years, but that the quality of schooling in the area more or less remained the same and hospital and medical care worsened. These results contradict the impression that the companies in the area had on their impact on the local communities.

Table 11.4. Quality of hospitals in Rustenburg

Response	Percentage (n)	Highest qualification of household heads	Highest qualification in household	Lowest qualification in household
Don't know	8% (59)	Grade 6 = 13% Grade 8 = 11% Grade 11 = 13% Grade 12 = 15%	Grade 6 = 13% Grade 11 = 20% Grade 12 = 39%	Grade 6 = 13% Grade 8 = 11% Grade 10 = 15% Grade 11 = 13% Grade 12 = 17%
Improved	14% (109)	Grade 11 = 19% Grade 12 = 24%	Grade 11 = 20% Grade 12 = 50%	No schooling = 26% Grade 7 = 10% Grade 10 = 11% Grade 11 = 10% Grade 12 = 20%
Stayed the same	28% (214)	Grade 10 = 10% Grade 11 = 10% Grade 12 = 29%	Grade 10 = 11% Grade 11 = 13% Grade 12 = 55%	No schooling = 22% Grade 10 = 11% Grade 11 = 12% Grade 12 = 32%
Gotten worse	50% (377)	Grade 10 = 11% Grade 11 = 11% Grade 12 = 34%	Grade 11 = 16% Grade 12 = 64%	Grade 11 = 16% Grade 12 = 28%
Total	100% (759)			

Table 11.5 provides an overview of the relative size of the four listed platinum companies operating in Rustenburg. The number of employees ranged from 9,508 (Royal Bafokeng) to 64,906 (Sibanye-Stillwater), making Sibanye-Stillwater the largest of the four companies in terms of employees. When comparing ownership, Anglo American had the largest institutional ownership, with 78% of shares held by other companies and Impala Platinum Holdings (known as Implats), the least at 50%. Anglo American held the most significant amount of assets (USD7.2 billion/ R89 billion) and Royal Bafokeng the least (USD2.1 billion/ R26 billion).

Table 11.5. Company financial characteristics 2017 and 2018

Company	Ownership 2018 (2017)	Total assets USD billion	Net debt USD billion	Number of employees	Socio- economic investment USD million	Socio-economic investment: Percentage of total expenses***
Anglo American Platinum	78% (77%) companies	\$7.2 (\$5.6) ⁺	\$0.3 (\$0.1) ⁺	20 786 (28 692)	\$45.7 (\$22.8) ⁺⁺⁺	18% (9%)
Royal Bafokeng Platinum	66% (68%) individuals	\$2.1 (\$1.5) ⁺	\$0.1 (\$0.1) ⁺	9 508 (8 372)	\$4.7 (\$3.1) ⁺⁺⁺	22% (16%)
Sibanye- Stillwater	61% (63%) companies*	\$4.4 (\$5.3) ⁺	\$1.7 (\$1.6) ⁺	64 906 (66 475)	\$105.2 (\$0.1) ⁺⁺⁺	2% (1%)
Impala Platinum	50% (50%) companies	\$5.1 (\$5) ⁺⁺	\$0.4 ^{**}	50 512 (52 012)	\$10.1 (\$8.2) ⁺⁺⁺⁺	11% (9%)

Sources: Anglo American (2017, 2018); Impala Platinum (2017, 2018); Royal Bafokeng Platinum (2017, 2018); Sibanye-Stillwater (2017, 2018).

*Represent the 10 largest shareholders.

**Impala Platinum had a surplus of R2 billion cash in 2017.

***Total expenditure equals operating expenditure and other expenditure but excludes costs of sales.

⁺Converted from South African rand to USD using the spot rate at year-end: 31 December 2017: 1USD = R12.3026; 31 December 2018 1USD = R14.3637.

⁺⁺Converted from South African rand to USD using the spot rate at year-end: 30 June 2017: 1USD = R13.0648; 30 June 2018 1USD = R14.5894.

⁺⁺⁺Converted from South African rand to USD using the average exchange rate for the financial year 31 December 2017 of 1USD = R13.3129 and 31 December 2018 of 1USD = R13.2339.

⁺⁺⁺⁺Converted from South African rand to USD using the average exchange rate for the financial year 30 June 2017 of 1USD = R13.6013 and 30 June 2018 of 1USD = R12.8490.

When comparing the rand amount disclosed for socio-economic investment (Table 11.5), Sibanye-Stillwater seems to have invested the most in their local communities (USD105.2 million/R1,400 million) and Royal Bafokeng the least (USD4.7 million/R63.2 million). Concerning total expenditure, the socio-economic investment at Royal Bafokeng represented 22% of the total expenditure and Sibanye-Stillwater only 2%. Although the monetary value of Anglo-American Platinum was relatively low compared

to that of Sibanye-Stillwater, their investment represented 18% of the total expenditure of the company. The expected higher socio-economic investment by Royal Bafokeng Holdings was because individuals held 66% of the company shares, and the objective of the company was to develop and meet the needs of the Royal Bafokeng community.

The evident increase in the expenditure of socio-economic development signals the realisation of companies that their previous efforts might not have been enough to address the problems in the communities they serve. Furthermore, disclosing the level of expenditure on socio-economic issues, allow these companies to manage their reputations with current and potential investors, by reporting the use of financial capital to mitigate the effect they have on society at large. Disclosing the perceived positive impact on communities was easy to achieve, but disclosing the actual or potential negative impact on society is another matter. The analysis of the impression that the listed companies had on their actual and perceived impact on the local communities, based on the GRI 413 document, is discussed in the following subsection.

Company Disclosure

Operations with Local Community Engagement, Impact Assessments and Development Programmes

Information on the engagement of the companies in the local communities were not all found in the same types of reports. Anglo American disclosed some of the information either in the sustainability reports or the annual reports. Implats used different reports such as the sustainability reports, annual financial statements, annual reports and the mineral resource report. Royal Bafokeng mainly used their integrated reports, annual financial statements and corporate governance reports for reporting, and Sibanye-Stillwater used the sustainability report, integrated report, annual report and other smaller reports.

All companies omitted information related to the following:

- The percentage of operations that are implemented in specific communities.
- The use of operational impact assessments.
- The percentage of operations used for development programmes.
- Stakeholder engagement plans.
- Broad-based local community consultation committees for vulnerable groups.
- The existence of formal grievance processes.

Disclosures were lacking in terms of the broad-based community consultation and the existence of a formal grievance process. Some form of these processes did, however, exist in Rustenburg. Interviews with key stakeholders confirmed the presence of formal grievance processes but indicated that the Royal Bafokeng Nation¹ managed community meetings and *imbizos*². The interviewees further stated that the traditional and municipal councillors are invited to participate in these monthly meetings to discuss matters such as infrastructure and economic development aspects. Additionally, the Mayoral Stakeholder Engagement Committee is attended by the top management of the mines as well as the municipality. A key informant from one of the mining companies noted that “[t]here is a cordial relationship between the mine and the communities to an extent that we have stakeholders’ engagement meetings held on [a] monthly basis. This forum is used to share information for the parties involved.” Although the ward councillors are responsible to ensure regular ward meetings to address community concerns, interviews with community members indicated that the grievance processes, although in existence, were not functioning and that “*much more needs to be done to communicate with communities. Councillors do not hold frequent or regular meetings.*”

All four companies reported the use of social impact assessments. Anglo American has a programme called *The Social Way*, which was designed to “mitigate the challenges and high costs associated with managing closure-

¹ Ethnic homeland of the Bafokeng people.

² Gathering, usually called by a traditional leader.

related social impacts.” The programme further plans for the social transition in the event of mine closures and includes collaboration with all stakeholders. Similarly, Implats recognised the community in their social licence to operate and use social impact assessments to mitigate the social impact of restructuring at their operational units in Rustenburg. The focus of the disclosure was short-term oriented as it developed alternatives to shaft closures while trying to mitigate sustainable operations and concluding on wage negotiations. Sibanye-Stillwater mainly used social impact reports to report on illegal mining and management plans for possible mine closures. The use of a framework in their assessment, allowed “citizens’ groups to understand the US business in enough detail to fully assess [the] potential environmental and social impacts.” However, the report did not mention a social impact assessment framework used for the company’s South African operations. All four companies reported on arrangements regarding participatory processes; yet provided limited information on the linkage of these processes to the social impact assessments. They all linked the participatory process to their involvement in national and international industry bodies.

Evident from the socio-economic expenditure by the four companies (Table 11.5), all four companies were committed to local community development programmes. Anglo American supported vulnerable and marginalised stakeholders in their value chains, by investing in local suppliers and following a local procurement policy. Anglo American also invested in the development of education in the form of schools and the development of basic literacy and numeracy skills through adult basic education programmes. Anglo American, furthermore, created site-level socio-economic and regional partnerships in the hope that these partnerships will mitigate the social conflict and promote socio-economic development across the region. The company also offered a work-readiness programme for youth and a local workforce development programme. Implats invested in an incubation programme for entrepreneurs as well as several road development projects, and also supported local hospitals and schools. The company offered learnerships to youths and offered enterprise development and homeownership initiatives. Royal Bafokeng invested in the recruitment

and development of women, and Sibanye-Stillwater created local business forums to support individual small, medium and micro enterprises. Sibanye-Stillwater also invested in enterprise development programmes with a focus on the agricultural industry and the development of women in leadership positions.

All the companies therefore reported on their impression of the positive impact they had on the local communities in the form of investment in health care and schools. In addition to reporting on local community engagement, impact assessments and development programmes, the companies should also report on their operations with significant actual or potential negative impacts on local communities.

Operations with Significant Actual and Potential Negative Impacts on Local Communities

Absent in the reporting of all the companies was the mention of operations with negative actual or potential impact, the location of the operations, as well as the physical and economic isolation of the mining communities. The state of socio-economic infrastructures, type and volume of pollution and the state of the major employers in the local community were also not sufficiently addressed. This finding aligns with the literature that indicates that companies choose to report only on issues that are to their benefit and avoid reporting on aspects that may negatively impact their reputation. Attention was, however, given to the socio-economic development in the area (as discussed earlier), health care and educational infrastructures and the strength and quality of local and national institutions.

In terms of land conversion and resettlement, Anglo American developed specific management plans for resettlement, the protection of cultural heritage, treatment of indigenous people and benefit-sharing of their operations in Brazil. Locally, though, the negotiation to resettle 19 households on the mining boundary in Rustenburg, yielded no results as the households refused resettlement elsewhere. Implats only resettled families within a danger zone in Zimbabwe, with no resettlement plan in their South African operations.

Given the different results in the household and member questionnaires, it is clear that the members of the local community had different impressions about the communities' socio-economic status. Although the majority of the households seem to be better off than 5, 10 or even 15 years ago, the question remains on whether the socio-economic investments by companies were bearing fruit. The comparison between the companies' impression on the impact of their community development programmes and the community members' impressions, indicated an apparent mismatch of perceptions. The companies were of the impression that they had sufficient levels of investment in educational, entrepreneurial, support of local businesses and medical programmes, whereas the communities held the opposite view.

DISCUSSION AND CONCLUSION

The review of the perceived impact of the listed platinum mining companies on the communities highlighted several differences in the impressions between the communities and the companies. Where communities were experiencing marginal improvement in their socio-economic status, companies seemed to be under the impression that their investment in socio-economic issues was sufficiently addressed in their external reports. Several conclusions were reached in this chapter. First, the companies in Rustenburg were embracing the international trend of combining financial and non-financial information, dealing with social and environmental information, although some still issued sustainability information in a stand-alone report. The inclusion of non-financial information may indicate that companies are managing investors' impressions in an attempt to attract investments and protect their reputations.

Second, the level of poverty and systematic inequalities identified by the South African Human Rights Commission in 2016 remained. These inequalities were evident from the responses of the household questionnaires (49%) and their perceptions that it was more difficult for the current youth in the area to be better off than their parents were in 2012, whereas only 16%

held the opinion that it was less difficult. Although a marginal increase – from 52% of the households, placing themselves on the lowest two levels of the income ladder compared to 62% 15 years ago – demonstrates a likely subjective increase in well-being, it demonstrates that more than half of the households still consider themselves as part of the lowest two income levels, demonstrating the inequalities that still existed in the area.

Third, because of unemployment, high poverty levels and the precarious financial position of the youth in Rustenburg, the economically isolated communities involved in the mining industry were highlighted. Although the mines were the major employers in Rustenburg, none of the mines disclosed the degree of economic and physical isolation in their external reports. Excluding this isolation from reporting is a clear indication of companies manipulating the impressions they create in their reporting. By only reporting the positive economic impact on the community and excluding information on the community's economic isolation, companies seem to be reporting with the intent to attract external investments and not considering the informational needs of a larger groups of stakeholders.

Fourth, the companies believed that their investment in education and health care significantly contributed to education and health care in the community. Although it is expected that the companies will only disclose the positive impact of their investment to boost their external impression and reputation, and the communities will highlight the deficits in education and health systems, it seems that the community is not experiencing the real effect of the education and health care initiatives of these companies. However, the majority of the community did not see any improvement in the quality of schools and hospitals (58% and 78%, respectively). The community's perception supports the 2016 Eunomix Report findings that there is a lack of access to formal education in Rustenburg. The disclosure by companies creates an impression that they were making significant investments in education and health care, yet the impact of these projects did not reflect in the opinion of the community.

Fifth, companies disclosed significant information on their impact on the environment such as handling hazardous waste and exposure to air pollution, but less information about their negative economic, social and

cultural impact on communities. With this practice of more environmental disclosures, companies are arguably trying to legitimise their activities and protect their reputations in terms of environmental impact and sustainability. When the companies report on the use of social impact assessments and implementing programmes to address social issues, they indicate that they recognise their responsibility for communal social welfare. The absence of disclosure on the potential and actual negative effect on the community, however, is another indication that they are manipulating the positive impression they portray to potential investors.

Sixth, it is evident from the information disclosed by the companies that they consider communities to be important stakeholders. The absence of clear disclosure on the nature and extent of community involvement in the preparation of non-financial information for inclusion in reporting, creates questions about the legitimacy of the community-related information. Companies are using their discretion and managing the impressions they create by balancing the positive and negative effects on communities and focussing on the positive rather than the negative aspects, contrary to the philosophy of integrated and sustainability reporting, companies should disclose how their business activities influence value, both positively and negatively, in the short, medium and long term.

Despite international guidance available to companies on how to report their potential and actual impact on local communities, reporting on the negative impacts were lacking in the listed platinum companies in Rustenburg, South Africa. Current reporting practices seem to focus on the companies' impression of their positive impact on local communities and revolved around the support for education, health care and local businesses. Insufficient reporting on the assessment of these programmes and the involvement of communities in the assessment process may indicate that these programmes are not bearing fruits as intended. The difference in responses from the key stakeholders and companies highlights the difference in the impressions. To ensure more balanced reporting practices, companies should embrace the integrated and sustainability philosophy and recognise the negative influence their activities have on the community, as well as the fact that their initiatives, although significant in their view, may not address

the socio-economic needs of the communities they serve. Closer relationships with their communities in terms of educational and health care needs may also be necessary to ensure companies are aware of the needs and perceptions of the community. Addressing these needs and perceptions, along with their own agenda for impression management, may lead to more transparent and balanced reporting.

The lack of potential and actual adverse impact reporting by the four companies supports the existing literature that non-financial reporting is used by the management of companies to manage investors' impressions (Beretta et al. 2019; Casonato et al. 2019; Diouf and Boiral 2017; García-Sánchez et al. 2019; Melloni et al. 2016). The current reporting practices further raise questions about the usefulness and accuracy of the reporting practices of these companies, as well as for whom they envision the users of these reports to be. If the focus of the companies' non-financial reporting were to shift from impressing investors to focussing on the information needs of local communities, these reports would look significantly different.

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Chapter 12

**DIGGING DIFFERENTLY,
AND SOCIETY IS SHAKEN**

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ABSTRACT

Digging Differently, and Society is Shaken assesses how different policy approaches affect social and spatial patterns near the mining sites. South Africa's mining industry has experienced numerous policy and business changes since the 1980s. These aim to address racial discrimination, promote socially responsible mining, and enable the industry to compete globally. The chapter argues that changes in housing, recruitment and labour practices have had mainly undesirable social consequences. It asks whether the government, the unions and the industry failed to anticipate these consequences while negotiating the changes. It explores four possible explanations for pursuing changes, despite predictions of adverse effects: ignorance, focus on only one consequence, trade-offs, and hidden agendas. The chapter asks whether the seamless

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cooperation between government, unions and industry points to an excessive focus on profit and personal gain.

Keywords: anticipated consequences, mine housing policy, mineworker recruitment, outsourcing in mining

INTRODUCTION

The South African mining industry has seen significant changes since the mid-1980s. These have been influenced by global and national theories and agendas, such as a quest for more responsible and sustainable mining, the undoing of apartheid-era racial practices and the need to become a competitive player in the global market. This led to the adoption of new legislation, policies and business models to regulate and steer the mining sector.

These measures have had complex and often undesirable consequences for the mines and their workers, as illustrated during the 2012–2014 violence and protracted labour actions in the platinum belt. New policies resulted in new ways of digging for resources, which have shaken the broader society around the mines. The consequences are far-reaching and mostly reflect the characteristics of the so-called “resource curse”: massive population influx, high unemployment, social ills, conflict and the overburdening of local bulk service delivery and infrastructure (Brueckner et al. 2014; Marais et al. 2017).

The question is if these consequences have not been anticipated when the changes were conceptualised and negotiated. After all, it is the core competency of policymakers and reformers to anticipate the outcomes of their decisions and directives. This chapter reflects on this question through the lens of Merton’s theory of “unanticipated consequences” (1936) and the pursuing of goals even though some negative outcomes might have been anticipated (De Zwart 2015).

The chapter starts with an overview of the concepts of unanticipated and unintended consequences, followed by an introduction into some mining

reforms in South Africa since the 1980s. The interviewees' understanding and experience of these changes and their consequences are then discussed. The last section seeks to answer questions on exactly how unanticipated or anticipated these consequences could have been.

The picture unfolding in Rustenburg clearly does not match the preambles, objectives and stated intentions of the raft of laws, policies and arrangements that promised to change the mining industry into a source of benefit for all South Africans. This invites us to contemplate the existence of underlying intentions, motives or allegiances impacting on or even driving negotiations and the nature of the changing mining landscape.

CONSEQUENCES: INTENDED, UNINTENDED OR ANTICIPATED?

It is part of the core business of policymakers to anticipate potential threats, limitations, impossibilities, capacity and side effects when conceptualising, negotiating and drafting policies, reforms and strategies. Why then is there so often surprises and head-scratching over unwelcome side effects or poor implementation? The concepts *unintended* versus *unanticipated* are drawn upon to interrogate this question.

In 1936, Robert Merton suggested a framework to analyse how purposive action results in unanticipated consequences. He identified three barriers to a correct anticipation, namely the existing state of knowledge, the "imperious immediacy of interest," and error (Merton 1936, 901). We cannot assume that decisions are always based on existing and scientific knowledge; they are also informed by opinion, estimates or predictions, conflict, emotional involvements, varying interests or ignorance. Ignorance – it is interesting to note – implies that knowledge is available, but not obtained. The immediacy of interest refers to instances where the actor's paramount concern lies with the foreseen immediate consequences and excludes consideration of further or other consequences. Error is often the result of the fallacious assumption that actions, which have worked in the

past, will continue to do so in the future. Habitual actions seldom meet with success. Merton's framework has since gained ground in various disciplines, including public policy, planning and administration, economy, sociology, inequality studies, history, environmental studies and law (Čavoški 2017; De Zwart 2015; Ruijter 2012; Sagasti 2019; Solinas-Saunders and Stacer 2015; Van der Linden 2010; Vernon 1979).

De Zwart (2015) noted that in the decades since 1936, Merton's term *unanticipated* has been replaced by *unintended* and the terms are now conflated and used as synonyms. He perceived this as a loss, since it limits in-depth analysis, discourse and the correction of outcomes. Instead of accepting that the consequences (should) have been anticipated, the responsibility for outcomes is thus easily denied and deferred.

Policymakers and reformers have to make difficult choices, precisely because policy and legislative formulation involves controversial and politically sensitive issues. They may decide to pursue their plans despite anticipating unwanted consequences. There are thus trade-offs: bad things are allowed to happen because they fear that worse things could happen. They may simply be indifferent or are willing to gamble while hoping for the best (De Zwart 2015).

Negative outcomes may thus be unintended, but not necessarily unanticipated. Simply assuming consequences as unforeseen or presuming ignorance seems naive, even lackadaisical.

NEGOTIATING A NEW FACE FOR MINING IN SOUTH AFRICA

Since the 1980s, the mining industry in South Africa has been going through major transformations, intended to reverse a century of racial discrimination and inhumane employment conditions. The rise of the National Union of Mineworkers (NUM) was central to this process. From 1994, the African National Congress (ANC) government, in allegiance with a strong labour movement, advocated for the radical restructuring of the

workplace to ensure racial equity, improve working conditions and democratise decision-making at company level (Di Paola and Pons-Vignon 2013). These changes have to be read within global trends and discourses, such as collaborative planning, corporate social responsibility, sustainability and responsible mining (Bice 2016).

A significant event was the dismantling of the single-sex hostels, a hated symbol of the mining industry and apartheid. Black workers started to receive living-out allowances, which had previously been reserved for skilled white workers. This was a privilege the NUM has insisted to obtain for its members. Another major shift was the replacement of direct recruitment and employment with outsourcing and subcontracting, first of non-core and eventually of core production activities. Contract workers, whether directly employed by the mine or by subcontractors or labour brokers, are more vulnerable than permanent mineworkers. Their wages are approximately 60% less than those of permanently employed workers, they can be sacked easily, work in dangerous locations, receive no benefits and cannot join labour unions (Alexander 2013; Bezuidenhout and Buhlungu 2015; Forrest 2015).

These reforms and changes were supported by the mining companies but based on another rationale than that of their negotiating partners. By freeing workers from overbearing control, the companies were freed from politically delegitimised control structures, as well as the associated costs and responsibilities. Globalisation and neoliberal management practices obliged the corporations to curtail their spending on peripheral activities. Multinational companies display less concern about local matters beyond mining, their core business (Hamann and Bertels 2018; Marais 2018). *Clean wages* brought an end to the (costly) provision and maintenance of housing and medical care in mine hospitals. Instead, workers received living-out allowances and medical aid contributions. These changes brought significant financial incentives, provided the companies could keep allowances low enough. In addition, this created an opportunity for companies to get rid of or shift major responsibilities, such as housing, to workers and local governments who must deal with the growing informal settlements, and recruitment, wages and grievances to labour brokers and

subcontractors. In the process, “the maintenance of exploitative labour relations, too, was outsourced” (Hamann and Bertels 2018, 412). The companies did what government and labour expected of them: they dismantled the hostels and paid living-out allowances. Could they wash their hands of the consequences?

A major feature of the transitional process is the development of a strong state–industry–union collaboration. For Rajak (2016), this goes beyond collaboration; she noted a convergence of corporate and NUM ideology. Since approximately 2005, NUM’s discourse and practice shifted from collective struggle and worker solidarity to the promotion of individual self-actualisation and economic empowerment. This is aligned with the corporate-sponsored discourse of patriotic capitalism, which resulted in a move from all-embracing paternalism to corporate-sponsored economic empowerment and self-empowerment of workers and a move to externalise and individualise workers’ welfare on the workers themselves (Rajak 2016). In practice, the union leaders have become removed from their base. They are aligned with the governing ANC party, while senior shop stewards of the unions are paid by the mining companies (Alexander 2013). NUM leaders moved into high positions in government and the private sector, which not only significantly changed the union’s culture; it implies a loss of capacity. Di Paola and Pons-Vignon (2013) argued that changes in the labour market reproduced, instead of challenged, the unequal relationship between capital and labour. Labour simply no longer protects poor workers. The collaboration between capital and the ANC, according to Alexander (2013), is strongly bonded by the glue of Black Economic Empowerment. Rajak (2016) contemplated an understanding of this state-union-corporate synergy as a pact to divide and defend the spoils.

For the industry, and specifically the workers, the result of these reforms was thus “a complex pattern of continuity and change” (Capps 2015, 501). Apartheid-style indignity, uncertainty and cruelty were replaced by new types of indignity, uncertainty and cruelty for the workers. The question is how these decisions have shaken the broader society of Rustenburg and this is discussed in the next section.

DIGGING DIFFERENTLY: CHANGES IN THE RUSTENBURG MINING INDUSTRY

Through the 21 interviews, the key informants detailed numerous changes in the mining landscape over the past three decades in the platinum belt and how it impacted on the Rustenburg society. Three themes emerged repeatedly: housing, recruitment and employment.

Where to Live?

The most significant changes regarding housing were the conversion of the single-sex hostels into family units, the introduction of the living-out allowance system and the decision to charge market-related rent for mine houses. The conversion of the hostels into family units reduced the number of units available. Thousands of workers were forced to find alternative accommodation, with the living-out allowances of between R1500 and R2000 per month they received from the mining companies. These workers started to move into informal settlements.

During the boom of the 1990s, the mines built many houses for their workers, who paid a nominal rent per month. When the mines decided to charge market-related rental for their houses, the attraction of living in a mine village or house was lost. Why pay R5,000 rent for a house if you can afford to pay that amount per month towards a bond for your own house? Why pay at all – after having lived for free in mine housing for years? Many workers decided to move into informal settlements.

The interviewees explained that, even before these changes, some mineworkers have built shacks in the informal settlements while they continued to live in the hostels. In this way they could benefit from free food, security and transport provided in the hostel, while having some kind of normalised family life in the shack. As accommodation became limited through the transforming of hostels into family units, these workers permanently moved into their second homes in the informal settlements.

This contributed to the formalisation of second families. Unfortunately, this happened in the period when HIV/AIDS was at its worst and treatment was unavailable. When these workers get ill, die or are retrenched, two families are left without a breadwinner and income.

The interviewees mentioned another problem emerging from changes in housing policies: nutrition and absenteeism. Mineworkers previously got meals in the hostels and transport to work; now they have to cook for themselves and walk or pay for transport to get to the mines. They do not buy or cook nutritious meals for themselves, but live on fast foods, such as *vetkoek* (fried bread dough), that they buy on the way to work. This cannot sustain them for the physical, hard work they do. The research by Pelders and Nelson (2019) linked fatigue at the workplace to the living conditions in the informal settlements, where workers must deal with noise, shared rooms, poor or no ablution facilities, poor nutrition, safety/crime, family obligations and commuting time. An interviewee involved in the mining industry noted that absenteeism has become “the most important word at the mine,” as it impacts on planning and eventually profits. After three warnings for being absent, a mineworker is dismissed. This has serious social implications, not only for the mineworker and his family, but also for the broader society. The whole family becomes an additional burden on already stretched government services.

In addition to all the mineworkers, ex-mineworkers and contract workers moving into informal settlements, people from outside started flocking into these areas in the hope of finding work. These settlements expanded dramatically, thereby making the mines’ housing problem that of the workers, society and ultimately the municipality. The latter cannot deliver services to settlements on mine or private property or land earmarked for something else, such as a clinic or school. They cannot sink boreholes, because the underground water so close to the mines is contaminated. The municipality also does not manage to remove the people, who refuse to move further away from the mines – out of *the radius*.

The Magical *Radius*

Three topics dominate the interviewees' perspectives on the recruitment model. The first is the insistence on local employment, requiring the mines to employ from the doorstep locality. This is linked to a term constantly used by all interviewees: *the radius*. Community members and hopeful job applicants at the mine believe that they need to live within *the radius* to stand a chance of getting a job at a mine. Details on *local* and *radius* are elusive. Interviewees were uncertain which act or regulation stipulates this or how big *the radius* is. They mentioned anything between 10km and 50km. Both could be true if mines are free to decide on their own radius. Some mines apparently use a point system within concentric circles: the closer you live, the more points you get and the better your chance for a job. However, the question remains: How *local* is *local*? For some, *local* refers only to local Tswana people. Some were prepared to include all South Africans, although other would exclude the Xhosas, the dominant group of migrant workers. When asked if Mozambicans, some who have worked on South African mines for generations, would qualify, the answer was an emphatic "No, never." The literature is also quite vague on *local*: anything from 60km to the whole of North West. However, it does seem to exclude migrants from the traditional sending areas (Forrest 2015).

The urge to stay within *the radius*, combined with the move from mine accommodation (houses and hostels) to the informal settlements and the influx of job seekers, resulted in sprawling informal settlements around the mines in Rustenburg. By 2012, 42% of the Rustenburg residents lived in informal settlements – compared to 15% in the rest of South Africa (Bezuidenhout and Buhlungu 2015).

A second factor about recruitment is that the mines now recruit workers through the ward councillors. The interviewees link this to the mandatory alignment of the planning processes of the mines and the municipality (the Social Labour Plans and Integrated Development Plans, respectively). They explained the system as they experienced and observed it. The mine would send a message to the councillor that a specific number of jobs or learnerships are available within *the radius*. The councillor then convenes a

meeting and attendance registers are filled in. The attendance register seems to be the most important item on the agenda, as it proves that the councillor did convene a meeting. In addition, as an interviewee explained:

[W]ithout your name on the register you cannot submit a CV [Curriculum Vitae]. The CVs are then submitted to the councillor. The register and the CVs go together. But we never again see that list and when you make inquiries you learn that your CV was not on top: they have put another on top of yours. Seemingly, we are always the last person on the list.

One councillor praised the nearby mine for letting her know when they needed workers. She informs community members whose CVs she has on her data-base, but unfortunately, the mines never give her feedback on the appointments. As she cannot give the candidates feedback, the trust deficit continues to deteriorate. A community member from another ward confirmed this: their councillor really tries to get them jobs, but the mines never give feedback.

According to some interviewees, the councillors tend to submit an alternative list of CVs to the mines – mainly of people from where the councillor originates. When the community learnt that people from the Eastern Cape got jobs for posts locals had applied for, they burnt down the house of their councillor, a Xhosa woman. An interviewee was still so upset that he insisted on showing us the burnt house. This councillor is no longer safe in her ward. In another area, the interviewees told us that the councillor sold jobs for R2,000. The people in this community are too poor to pay that kind of bribe.

The idea of local employment seems to have led to rampant corruption. People either try to be “local” by erecting a shack “within *the radius*,” they pose as locals or they bribe authorities. Benya (2015) heard from community members how mine officials or contractors sell temporary jobs for R3,000 and permanent jobs for R10,000. Officials in the traditional authority are paid to stamp reference letters, stating that the applicant is from that community. This has also opened the door for union corruption, as some NUM officials fast-track their relatives and friends into employment.

Companies started to informally outsource recruitment to the union, which aggravates the problem (Forrest 2015).

Do the mines know what is happening? The interviewees did not know, but one was quite upset about the lack of care from the mines' side. She wondered why they are not following up or sending their liaison officers out to check what is happening. If brown envelopes are indeed "running under the table," then mine hands must be receiving them. An interviewee pleaded: "Tell the mines to stop selling jobs, because if you have no money you cannot get a job."

The last issue regarding recruitment is the perception (some call it a proven fact) that the local Tswana people are not by nature suitable to work in a mine; this should better be left to the strong Xhosas, fearless Basotho and the technical Mozambicans. Over generations, recruitment was done according to an ethnic classification. The interviewees lamented that, since the Tswana people are perceived as lazy, the hope for them as "the most local" of residents to find employment is rather dim. They claim that these outside groups come to Rustenburg, knowing very well that they will be employed almost automatically.

This perception was confirmed during the Truth and Reconciliation hearings, when the ethnically-based recruitment system was interrogated. A NUM member explained which ethnical group was recruited for what tasks: the Basotho for shaft sinking, the Mozambicans for mechanical work and the Xhosas for operating the furnaces, trams, etc. When asked about the Tswana people, his response was: the skills of the Tswana people "did not immediately come to mind" (Congress of South African Trade Unions 1997). Even though Forrest (2015) referred to these perceptions as myths, he does note that 50% of local trainees (Tswanas) drop out from rock-drill operating training, while workers from the Eastern Cape and Lesotho can do this work permanently. About 35% of workers in the area are Xhosa-speakers from the Eastern Cape.

Through a strange twist, the infamous migrant recruitment system, with its offices in the labour-sending areas, seems to have been replicated through a system of local recruitment within the *radius* through local councillors,

who seem not to be very *local*, and practices allowing for nepotism and bribery.

Employment: Direct, Permanent, Contractual, Outsourced – or Nothing

When referring to changes in the business model of the mines, interviewees mainly referred to changes in employment conditions and the shift from direct employment to contracting and outsourcing. Probably the most significant change in employment conditions is the concept of *clean wages*: a salary, living-out allowance and medical aid contribution. This change frees companies from the costly responsibility of providing and maintaining housing or medical care for workers. The unions further negotiated full-time employment instead of the traditional annual contracts. The latter allowed migrant workers (for example from the Eastern Cape) to go home for three months a year to spend time with their families and to engage in subsistence farming. Current full-time contracts imply less leave and little opportunity to go home, which has an impact on the family structure and customs.

A major change regarding employment came in 2000, when the mines started engaging Broad-Based Black Economic Empowerment (B-BBEE) businesses. This was accelerated after the 2014 strike, when mines argued that outsourcing and mechanisation would prevent the chances for and the effects of more strikes. Merely by changing the business model, employment costs and labour tension could be cut dramatically. The changing employment system conceals the real effect of downscaling and retrenchments, as permanent workers are continuously replaced by contract workers. Contractors have fewer labour problems and can operate more profitably than the mining companies.

There is scepticism about the B-BBEE outsourcing. According to an interviewee, lucrative contracts are granted to white companies, while black businesses get contracts for cleaning, gardening and painting. These small contractors fight for the crumbs and undermine each other. If any of these

businesses become aggressive and act “dangerously,” the mines would grant such a business the contract to avoid attacks and possible damage. Yet again, the interviewee noted, we see that old strategy of divide-and-rule, where the mines manage to create conflict within the black community.

When mineworkers are retrenched or when they become contract workers, they lose their medical aid and they and their families become dependent on government services. This is an additional load that the system, specifically the health sector, cannot carry. The North West provincial services are already struggling with capacity problems.

A SHAKEN SOCIETY

The interviewees sketched a picture of a society in trouble. A complex set of social problems have resulted from the transformations in the mining industry. This is aggravated by a perpetual influx of more people looking for jobs and opportunities, into a society already struggling with deep poverty, overcrowding and rising tensions as the battle for resources intensifies.

As mineworkers started vacating mine houses all over Rustenburg, these empty houses have become “criminal nests” and brothels. They are (legally) rented, mainly by Nigerians, who use them as guesthouses. According to their brochures, rooms can be rented at R150 for two hours. Some of these houses are also used as illegal and unregistered training colleges. A municipal official pointed out that it is impossible to attract investors into the central business district, where most of “the dirty things are going on.” Even though the municipality has a list of these so-called guesthouses, they do not manage to close them, because the problem “is too big.”

Overcrowding and a lack of privacy in one-roomed shacks, have led to children being exposed to things “that they should not see” and girls becoming mothers “before time.” Due to poverty, young girls are driven to accept multiple *blessers* (type of sugar daddy). A growing phenomenon, according to counsellors at a non-governmental organisation (NGO), is single women arriving from Zimbabwe and Lesotho to find men who earn

salaries. When they have no luck, they turn to the NGO for help – or to prostitution.

When mineworkers are retrenched, some desert their second families and return to their homes. The health care of the remaining families becomes the responsibility of clinics that are already under stress. This is also the case when the mineworkers manage to get employed as contract workers, because they lose their medical benefits. In general, contract workers struggle to support their dependents (Di Paola and Pons-Vignon 2013). In some cases, when mineworkers are retrenched, their *nyatses* (lovers) leave the children with the men and the women start looking for new lovers, preferably mineworkers who are permanently employed. An NGO offering a variety of services noted that men are increasingly seeking counselling, as well as food parcels and medication. This NGO is also working with more white homeless people. The middle class seems to be disappearing; only the very rich and the very poor are left.

Unemployment and poverty seem to bring out the worst in people. A few interviewees mentioned how people try to “make money out of others’ misery.” They would even open child and frail care centres for profit and abuse is rife in these illegal and unregistered places. Anything is for sale: people come from outside and suddenly have houses and jobs. One interviewee felt that “my birthright is being stolen” through this corrupt system.

Among the interviewees living in the informal settlements, there is open fear about life in these areas. One interviewee was shot in the street the previous year, and she was raped six months later. Her fear was tangible – and because the cases were not solved by the police, she was even scared to participate in the research; she did not want to be seen talking to strangers, for fear the attackers would come back to “finish off the job.” She was not the only interviewee complaining about the South African Police Service who is not dealing with cases. They seem not to have a presence in some informal settlements. This further contributes to the tendency of the community to take matters into their own hands. Taxi owners and informal hawkers at the taxi rank in town have, for example, organised themselves to deal with the drug problem in the area and according to interviewees, they

“really cleaned up.” The houses used by the Nigerians for trafficking, prostitution and drugs were burnt down – and it appeared as if it was not only the houses that had been burnt.

Almost all interviewees were concerned about gangsterism. Gangs seem to be ethnic-based and they rule certain areas like quasi governments. There is a dominant tribe in each squatter camp and the group most frequently mentioned is the Xhosas. If an informal settlement has a Xhosa name (and many have), it indicates that it was started by a Xhosa group within *the radius* and that this group is in charge there. The gangs have huge power over people and whenever things do not go their way (e.g., during meetings), they “will just come with their sticks and their *knobkieries* [a traditional walking stick with knob, used as weapon] and they will beat you to death.” The interviewee told the story with big eyes, full of fear. In addition, such a gang gets support from the ward councillor in the area if this person is from the same ethnic group. The interviewees from the tribal authority pointed out that these ethnic fights are now even observed in their area, which is quite foreign to them. Gangsterism even plays out on the landfill site, where 380 people are permitted to reclaim waste on a daily basis. Highly organised gangs fight among each other for “the best waste.” For example, when a truck from a mine arrives at the site, the strongest gang makes sure that nobody else reclaims what was tipped from that truck, as it most likely contains metal. They will fight other groups off with *pangas* (broad-bladed knives) and other weapons.

When asked who does what about the social situation, the interviewees found it difficult to mention any. They doubted the willingness and capacity of the municipality and provincial departments to provide any services or protection. In some areas there are no police stations or social workers. A desktop review of NGOs in Rustenburg confirms what the interviews revealed: a very limited number of active NGOs could be identified, even in informal areas with an obvious need for support. When asked about active NGOs, several municipal officials mentioned the pastors’ forum as a major player. They support the municipality’s initiatives, apparently by arranging prayer sessions and marches against prostitution. A suggestion that the mines could step into the breach was met with scepticism. Some believed

that the mines are no longer rich enough to help. Others discerned a change of heart: the mines no longer care about the community. In addition, mine managers now live in Sandton and do not know Rustenburg and its people. The community has to fend for itself, with only some struggling government services and NGOs to support them. In fact, some interviewees struggled to give reasons why they would want to live in Rustenburg. One mentioned the church as something good, but another was more sceptical: “They will come and take people and say: ‘Come and see Jesus’, but can you see Jesus with an empty stomach?”

An interviewee, who lives in an informal settlement within *the radius*, knows her community intimately. She is a home-based care volunteer and victim of several crimes in her neighbourhood. During the interview, she pointed to a man passing her house. Through his life story, she vividly encapsulated the spirit of this community:

This man is trying to find work for a long time, left, right and centre. He has been sent from pillar to post. He sometimes comes in to ask for food or water. He has nothing, not even roll-on ... you can hear him when he is passing; even the mouth - no Colgate [toothpaste]. But it is not his fault. It is not that he is not doing hygiene; he can wash a hundred times with water, but what will that do for him? When the time goes on, what do you think this man will come [to]? There will come times when he will say: “Fok!” and then he will come and take your bag to help himself. Because he is tired. He has tried the right way and now the right way is not working. Now there comes the wrong way – when the crime is developing and the *nyaope* [local drug]. And even the children, they are just trying to forget.

HOW UNANTICIPATED ARE THESE SOCIETAL CONSEQUENCES?

The Rustenburg society has clearly been shaken to the core by thirty years of changes in the mine–political landscape around and underneath them. It sounds unfair and certainly uncomfortable to assume that these

outcomes were the intention of those tasked with designing a more equal, just and responsible mining industry. However, it is equally difficult to accept that these outcomes could not have been anticipated.

De Zwart (2015) maintained that unwelcome and damaging consequences may not have been intended, but that they may still have been anticipated. Policymakers pursue their plans notwithstanding the foreseeable outcomes. By deconstructing the conflation of *unintended* and *unanticipated*, a more meaningful discussion is possible. The question is thus not only why policymakers fail to anticipate unwanted effects; why, given the anticipated risks, have they chosen to go ahead anyway? It is through this lens that I now look at the consequences highlighted in this chapter.

A barrier to a correct anticipation is ignorance or a lack of knowledge. This is implied when actors in the mining field claim to be taken by surprise about the “profoundly negative, unintended consequences” that their policy and business model changes have had (Hamann and Bertels 2018, 400). The Minerals Council of South Africa (2019, 2) noted that living-out allowances have unfortunately led to “unintended social issues.” According to the South African Human Rights Commission (2018, 52), the implementation of changes was challenged through “external factors” and a “lack of commitment and cooperation by other stakeholders” – despite feasibility studies informing decisions. The question is how such vital factors did not emerge during feasibility studies. Or were they ignored? Mine managers and union leaders seemed to be equally shocked by the extent to which the mineworkers opted to move into informal settlements. They maintained that they did not make the connections and failed to appreciate the possibility. In hindsight, they should have recognised that their reforms would have disadvantaged their workers and lead to their impoverishment in slums. Unfortunately, these consequences were simply not considered at the time (Hamann and Bertels 2018).

This is hard to accept. They were warned already in 1990 that workers might end up in shacks. Ironically, these warnings came from the NUM, the strongest advocate for living-out allowances and the dismantling of the hostels (Hamann and Bertels 2018). The Bench Marks Foundation (2014)

called it a tragedy that a universally elected democratic government has achieved exactly the kind of urban slums in the vicinity of every mine, something against which researchers and industry experts have been warning for decades. Presuming or pleading ignorance does not hold water.

A second explanation is what Merton (1936, 901) called the “imperious immediacy of interest,” where the actor is so focused on the paramount concern, that all other possible consequences are not considered. This begs the question: What had been the imperious interest of the main actors at the time? It is unlikely that mining companies intended their workers to live in terrible conditions in slums. It could be that their main interest or focus was to gain legitimacy in the New South Africa, to reduce their responsibilities and to compete in a changing global market by cutting costs beyond their core competencies. Similarly, leaders from the unions and government were just emerging from the liberation struggle, resolute to get rid of apartheid-era symbols, to ensure that black mineworkers get better wages and privileges previously reserved for white workers (such as living-out allowances) and to establish itself as a legitimate government for poor workers and voters. These immediate interests might have preoccupied them to the extent that they ignored internal critiques, alerting them to potential long-term consequences.

Another barrier is error. This is more complex than simply to make a mistake. De Zwart (2015) identified some reasons why policymakers and reformers insist on specific strategies, despite anticipating negative consequences. One is trade-offs, where unwelcome side effects are foreseen but are traded-off against the intended consequences. This may refer to a choice between two difficult options. The first is risks or moral dilemmas and the second is power games involving compensation: Who gives or gets what for what? The main parties negotiating mining reforms in post-apartheid South Africa were the government, mining companies and organised labour. Mining communities have never been recognised as a sector in government or business circles. During negotiations, the priority was justice for “emerging black South African capitalists” and mineworkers – not black communities affected by mining activities (Centre for Applied Legal Studies 2016, 13). We have seen the consequences for these

communities throughout this chapter. Cooperation between government, labour and the mining companies is apparently seamless: they agree on policy issues; the unions are incorporated into the company structures; union leaders are appointed into mining companies and government; and they seem to support each other during worker dissent (Rajak 2016). Should we be puzzled by this relationship, or simply accept that the nature and content of trade-offs are seldom revealed?

Another error regarding anticipation occurs when a morally acceptable goal is stated, while underlying goals are intentionally concealed. Some of the mining reforms have enabled companies to accrue moral authority, since liberalising gives the appearance of dismantling the institutional structures of exploitation. After all, the hostels were dismantled, and workers are now free to live and work where they want. But the underlying motivations remain unstated: liberalising and outsourcing are useful to cut costs and make more profits. Responsibilities for housing, health care and labour action – in fact for exploitation as such – could be passed on to others. And, importantly: cosmetic changes avoided bigger or real changes (Hamann and Kapelus 2004; Rajak 2016).

Even more damning are the underlying goals that are simply morally unacceptable. The ANC's 1997 policy discussion document, *Strategies and Tactics*, warned the party against "social distance" between those in power and their constituencies. It has the potential to perpetuate the class, racial and gender inequalities of the apartheid era. It "could render elements in the revolutionary movement progressively lethargic to the conditions of the poor" and also create "a coterie of mainly black men co-opted into the white courtyard of privilege" (ANC 1997). Twenty years later, in the 2017 *Strategies and Tactics*, the ANC still warns itself against "social distance," which "creates fertile ground for corruption and a vicious cycle of illicit mutual dependence between some private and public sector elites." There is little scope to claim ignorance or error; the consequences had been spelt out.

An interviewee described the post-1994 journey of her old struggle comrades, thereby giving a colourful illustration of how greed, trade-offs, the lust for power, the "courtyard of privilege" and divide-and-rule tactics impacted on the transformation of South Africa's mining industry:

We would all sit together and talk, eating apples. Suddenly, one started talking about bacteria and then he only wanted to eat apples from Woolies [Woolworths, perceived as an up-market store]. And soon you do not sit around at night talking any longer. You need to go through three PRs [Public Relations officers] if you want to talk to him. And then those under the Woolies man now also want to have Woolies apples; no longer Spar apples for them [Spar is perceived as a middle or lower class store]. Then the mining corporations get involved. They ask the Woolies man where his children go to school – and why not in Sweden? Before he knows, his children are shipped off to private schools in Sweden – all paid by the mines. And when the mines organise a meeting at Sun City, they book him in at the Palace – and the rest of the group in the Cabanas. This is how the greed started, and the jealousy and how the mines continue to divide-and-rule. First, the ANC was captured and then NUM was captured. AMCU [Association of Mineworkers and Construction Union] saw an opportunity when NUM lost it – not because they cared about the workers, but because they also wanted the Woolies apples and a room in the Palace. They therefore came up with the R12,500 [minimum wage] demand. When the strikes are planned, the mines depend on the Woolies man to inform the mine – and they phone the banks and tell them to repossess houses and cars. The sadness is that the very same people, who went into the trenches for this democracy, have now forgotten about it. These leaders want the biggest slice of the pie and forget about the community – exactly the same as the mines. The community has no longer an interest in strikes: They can see what happens.

THE CONSEQUENCES WE CAN ANTICIPATE

When listening to the voices of the interviewees, it is hard to accept that what the Rustenburg society is dealing with are *unanticipated* consequences. This chapter considered some barriers preventing policymakers from acting appropriately despite what could clearly have been anticipated: ignorance, a dominant and immediate interest overruling foreseeable consequences and error. The latter refers to deliberate choices made, while facing moral

dilemmas, contradicting interests and trade-offs to cover up morally-unjustifiable objectives.

To conclude: ignorance and error cannot explain some of the policy and business choices made in South Africa's mining industry since the 1980s, and the imperious immediacy of interest played a critical role in decisions. Government, labour and the mining companies were alerted to and were thus aware of the potential consequences and that some of their choices would be hard to justify ethically. By agreeing to the proposed housing policies, for example, mining companies were indeed giving workers the freedom to live where they wanted after living for decades in inhumane and controlled hostels. Behind this moral triumph, however, lurks another reality: companies could shed responsibilities and gain significant financial benefits, while workers moved into new inhumane conditions in informal settlements. The involvement of politicians, traditional authorities and union workers in the recruitment system seems to have facilitated a new species of corruption and self-enrichment, spawning tension and conflict in society.

One would expect somebody around that negotiating/planning table to have asked: Where will the workers live when they leave the hostels? Will the living-out allowance cover the cost of accommodation, transport to and from work, accessing private doctors and buying or cooking nutritious food? What are the benefits and dangers of involving ward councillors in the recruitment system? How will the insistence on *local* and *radius* impact on spatial planning and the broader community? Will subcontractors and labour brokers take good care of the workers? What strategies are required to ensure effective communication between a myriad of actors and systems, especially within the mine–community–municipality triangle? These questions should have been asked. If not, why not? If they were asked: What had happened to the answers? Will they be asked in future, considering the shaken state of the society around the mines today? Can we ever expect responsible and accountable mining while consequences are simply shrugged off as *unintended* or *unanticipated*?

If the consequences of policies and decisions are not interrogated with honesty and integrity, societies near mines will have little choice but to anticipate indifference, lack of care, own-interest-first and trade-offs. They

will continue to be sold out for the brown envelopes, Woolies apples and a room in the Sun City Palace. Then we can start anticipating the day, as one of the interviewees warned, that community members will say “Fok!” – and take my bag, and much, much more. It will sound hollow and dishonest to then claim *unanticipated*.

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Chapter 13

QUO VADIS, RUSTENBURG?

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ABSTRACT

Quo Vadis, Rustenburg? sums up the volume's findings and looks at the implications of potential mine closure for Rustenburg's future. It emphasises the importance of a long-term approach to capturing the social gains from mining by showing the damage the current short-term, poorly-designed policy response has made in Rustenburg. It concludes by arguing for the importance of a strong state that is willing to take an adaptive approach to policymaking and that acknowledges the hard truths about what is, and is not, possible in mining towns.

Keywords: boom or bust, governance, mining, mining towns, platinum mining

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INTRODUCTION

This chapter brings together the various arguments in this volume, showing how the authors answered the three key questions on which this volume focused:

- What are the current inequalities created by mining and what social risk do they hold for the future?
- What local risks are there if mines close and how do local institutions plan for both boom and bust?
- What are the unintended consequences of mining?

The answers to all three questions are entwined, forming a broader narrative of the consequences of ill-conceived or poorly implemented policy and government practices. As this chapter will demonstrate, most of the challenges facing Rustenburg today can be traced back to this broader issue.

Before delving into the negatives, it is important to note that there are positive consequences of mining, including its being a major creator of employment in areas that would otherwise have a limited economic basis. The requirements emanating from South African mining legislation force mining companies to make social and economic investments that are not expected of companies in other sectors. These investments range from providing housing support to employees (Cloete and Denoon-Stevens 2017) to investments in local education and health care (see Chapter 11). These positives provide a counterbalance to the various inequalities, risks, and unintended negative consequences of mining. However, the nature of these social investments is often problematic, as will be discussed in this chapter.

WHAT ARE THE CURRENT INEQUALITIES CREATED BY MINING AND WHAT SOCIAL RISK DO THEY HOLD FOR THE FUTURE?

In mining towns, it is relatively common that households with at least one household member working in the mines are better off than are other working households in the town. In Chapter 5 of this volume, Geldenhuys, Pool, and Burger confirmed that this is also the case for Rustenburg; however, there is also a documented schism between contract mineworkers and those directly employed by the mines. They found that the mean gross and net monthly earnings of directly employed mineworkers are 40% and 56% greater than those of contract mineworkers, respectively. Crush et al. (2001) first identified this problem in sub-Saharan Africa (SSA) two decades ago. From recent work by contributors to this volume (Burger and Geldenhuys 2018; Cloete and Denoon-Stevens 2017; Hendriks and Marais 2018), it appears that this form of inequality between different types of mineworkers is becoming entrenched as a defining feature of mining in SSA (see also Bezuidenhout and Buhlungu 2011).

In Chapter 10 of this volume, Pretorius and Blaauw looked at the issue of gender inequality. In general, they noted that in Rustenburg, women's average income was significantly less than that of men. In many male-headed households in Rustenburg, the female partners are economically dependent on their male partners. The rate of female unemployment was also higher than that of male unemployment. In terms of work demands interfering with home and personal lives, women indicated that this was an issue compared to male employees. This finding supports the idea that mining employment, due to its physical demands, tends to be perceived as more appropriate for men, and thus not directly creating many opportunities for women (Kotsadam and Tolonen 2016).

In terms of service provision, it is important to note that mining often results in extensive migration into the municipal area where the mine is located (a 'gold' rush), both in terms of people seeking work at the mines, and of those who believe that the influx will result in increased non-mining

economic opportunities. This in-migration is certainly true of Rustenburg where the population grew by 41.97% from 2001 to 2011, the ninth highest growth rate of the 234 South African municipalities. As the existing housing stock cannot cater for this high immigration, we typically see mining towns in South Africa having a larger percentage of their population residing in informal settlements (or using backyard accommodation), compared to other cities and towns of similar size in South Africa, and greater levels of sprawl (Marais, Denoon-Stevens and Cloete 2020).

In Chapter 8, Hendriks highlighted the impact of such trends on municipal finances. One consequence is that a large portion of households without formal service connections make illegal connections to water and electricity, costing the municipality millions in lost revenue. This issue, coupled with general infrastructure issues such as leaking pipes and commercial losses, accounted for 52.64% of the total water purchased in 2018/2019. This state of municipal finance is concerning, as a decade ago (June 2008), water losses in Rustenburg were only 32.4% (Mckenzie, Siqalaba, and Wegelin 2012). Hendriks further noted that Rustenburg spent consistently below the norm of 8% set by the National Treasury for repairs and maintenance. It is therefore likely that the growth in non-revenue water is a combination of declining infrastructure and growing illegal connections; however, it is impossible to determine with the existing data which of the two factors is more to blame.

As concerning, Hendriks noted that Rustenburg overspent its budget by approximately 10–11%. The Auditor-General (South Africa 2020) has also flagged Rustenburg as one of the three municipalities with the largest unauthorised expenditure, not adjusted for population size. This problem concerning municipal financial management highlights the significant social risk of rapid population growth in mining towns (especially poorer households) not being met with measures to ensure that the local municipality has significant capacity to cope with the increased financial burden.

WHAT LOCAL RISKS ARE THERE IF MINES CLOSE AND HOW DO LOCAL INSTITUTIONS PLAN FOR BOTH BOOM AND BUST?

In Chapter 2, Oranje et al. detailed the history of platinum mining in South Africa, including the recent developments that are globally behind the decline in demand for platinum. The turning point for platinum was the Global Financial Crisis in 2007/2008, whereafter platinum prices steadily declined. The Global Financial Crisis started the process of mines shedding jobs in Rustenburg to cope with the lower demand, which, coupled with the poor living conditions, was one of the structural factors that led to the Marikana massacre and other protests. The protests then led to a 12% decrease in production in 2012, which aggravated the economic crisis facing the area. In 2015, the Volkswagen diesel emissions scandal increased the global drive to move away from diesel, resulting in a further drop in the demand for platinum, given that one of its primary uses is as a catalytic converter. Adding to these complications is the growing technological cost of platinum mining to reach the deeper platinum deposits. These trends show an urgent need to consider a post-mining future for Rustenburg, given that this sector has been in decline for over a decade at the time of writing. Furthermore, it indicates that the mine decline process is not a single event or series of events; instead, it is a gradual process.

In Chapter 4, Maritz et al. considered whether local institutions are planning for a post-mining future. They found that the plans of various state authorities mostly refused to acknowledge a post-mining future. In the few instances where this does occur, the discussion is limited to issues of diversifying the economy; however, these typically did not consider the impacts of mining on these sectors, and the feasibility of the ideas discussed was under-researched, underdeveloped, under-engaged and had unrealistic ideas about the future. Many of the proposals were so generic they could have been proposed for anywhere in the world and had almost no connection to the local context.

This lack of planning for a post-mining future is matched by deep divisions, multiple suspicions, and simmering anger. These problems affected the idea of planning for a post-mining future, with many interviewees viewing this as a “plot” by mining companies to abscond from dealing with issues such as paying a living wage and to justify laying off workers. There was a belief among many of the interviewees that there were vast reserves of platinum metals. The mines must simply “hand over the keys” to local stakeholders who were willing to take the risks and manage the costs of accessing difficult to reach reserves¹. The authors noted a general lack of leadership in the region in terms of planning. Looking forward, the authors argue for regional collaboration, in particular the formation of a regional social compact, which will likely require novel and disruptive approaches to economic development.

Van der Watt’s contribution in Chapter 12 indicated two further problematic consequences of the increase in unemployment due to mine closure. First, a loss of employment, or downgrading of employment from permanent to contract work, often leads to the household losing access to medical aid, resulting in the health care burden been shifted from the mine to the state. Second, noting the large portion of migrant mineworkers, many have two families, one in the mining area and one “back home.” When mineworkers lose their employment, many return home, abandoning their families in the mining area.

Mosiane gave a slightly more optimistic positioning in Chapter 3 by focusing on the Royal Bafokeng Nation (RBN). The RBN is a relatively unique traditional authority, owning mines (Royal Bafokeng Platinum) and sharing with and receiving royalties from other mining groups who operate on its land. Through this, the RBN was able to amass an investment portfolio of R30 billion (USD2.027 billion)². Interestingly, it has managed to diversify its holdings since 2010, such that most of the financial capital is invested in financial services, not mining (Royal Bafokeng Holdings 2020). Consequently, the RBN is relatively resilient against a decline in mining

¹ Note in contrast, the economic reality described by Oranje et al. in Chapter 2.

² At the time of finalising the book in April 2021, 1USD = R14.80. The portfolio amount is based on the 2019 Integrated Review report.

operations in the region in a post-mining scenario. A portion of these holdings is then paid back to the community. In 2019, this was invested in education, sport and enterprise, and supplier development.

Mosiane's contribution focused on these "social payments," arguing that they act as a redistributive mechanism. The RBN facilitates and, in some cases, directly organises and subsidises households in the nation to have access to basic services and amenities, including access to water and electricity, good schooling, and medical services. The RBN also plays an important role in making land available for homes and businesses, thereby creating space for local and foreign-owned businesses. Still, the system has its flaws, as Mosiane provided a few examples of disgruntled Bafokeng residents, with some respondents alleging that their business application was denied when they applied for a loan but the business idea was passed on to someone else. Other allegations include applications to build rental housing to migrants being denied.

WHAT ARE THE UNINTENDED CONSEQUENCES OF MINING?

In Chapter 9, Ololade, Otunola, and Orimoloye highlighted the extensive conflict that has emerged between the mines and local communities in the Rustenburg area, with 39 protests been documented from 2013 to 2018, of which 16 related to demands for jobs and concerns about employment. There had been at least 400 incidents of social unrest in the Rustenburg area from June 2016 to March 2018. These protests and incidents of unrest occurred after the Marikana massacre in 2012, in which 34 miners were killed by local South African police.

The authors also noted various environmental issues from the mines, including groundwater with high nitrate levels; an increase in health-related problems such as asthma, tuberculosis, and sinusitis in the area; and complaints of noise and cracked buildings and houses that occur as a result of mining operations.

Van der Watt's contribution in Chapter 12 further analysed some of the reasons behind the ongoing conflict between the mines and local communities. She noted that there appears to be a perception within the community that mines are obligated to employ locals, with "locals" not having a precise definition, nor exact distance. It should be noted that there exists no legal requirement for mines to employ locals, but this appears to be driven by company-specific policies. Specifically, this refers to at least two major mining companies in the area attempting to recruit at least 60% of their labour force from those living within the local area. Local-level employment is, in part, in response to the frequent protests in the area (Forrest 2015).

This practice, combined with questionable labour recruitment practices on the part of the mines and their agents (including "selling" jobs and allocating jobs through local politicians), has resulted in significant conflicts within the surrounding communities. For example, many migrant workers are isiXhosa, whereas the locals are Tswana, two different cultural groups. These tensions have led, in one case, to a councillor's house being burnt down because she is Xhosa and the jobs were given to Xhosa people rather than the local Tswana residents. These cultural tensions were not just confined to the Xhosa and Tswana communities, but also related to issues of foreigners versus South African citizens. This conflict was noted by both Van der Watt and Campbell in this volume, especially regarding foreigners being a burden on local services and "stealing" local jobs.

Beyond expectations of being employed by the mine, Campbell's contribution in Chapter 6 of this volume highlighted an expectation by local communities that mines should invest in local infrastructure and amenities, with the unintended consequence here being the fracturing of governance. Local communities do not see the mines as a company or business, but rather that they play a key governance role. Local governance was complicated in Rustenburg by a strong and unusually well-organised traditional authority, the RBN. Linked with a general impression of the municipality being dysfunctional, this created conflicts about leading development in the area. For example, some mines did not align their social investments with the municipal plans, but rather with the plans of the RBN. Mines were also

considered to care less about the local communities' needs and more concerned with satisfying compliance requirements and keeping the Department of Mineral Resources satisfied.

Despite a major focus on homeownership in policy towards mining, large numbers of informal settlements have developed around the mining shafts (see Chapter 7). These informal settlements developed because mineworkers had to find housing themselves due to the influx of people to the area looking for work and having to settle as closely as possible to the shafts (see Chapter 12), and because of available traditional land where the traditional authorities did not apply land use regulations. Neither the government nor the mines provided an appropriate alternative to the compound. That state rental housing initiatives did not prioritise mining areas remains surprising.

Crous's contribution in Chapter 11 provided insights into how companies perceive these issues through a review of the sustainability reports of the mining companies who operate in the Rustenburg. Crous noted that the sustainability reports showed how the mines' investments in education and healthcare significantly contributed to improving the education and health in the community. However, in the household survey, most households did not report an improvement in either. She also noted that companies provided ample information on environmental issues, but less information on social and economic matters. She noted a clear attempt by companies to manage investors' impressions, not by being untruthful, but by careful choice of which information is given and which is omitted.

DISCUSSION IN RELATION TO WIDER GOVERNANCE ISSUES

The contributions to this edited volume have relevance to other mining areas in Africa and the Global South. In particular, they showed the danger of fractured governance, where there is no clear leadership and a reluctance to fully engage with deeply embedded tensions in mining areas. The

Marikana massacre in 2012 stands in testament to this; however, this volume, eight years later, shows that not much has changed since this incident, and most of the underlying structural issues remain.

While the South African government has pushed back against mines through reforms to housing and labour laws related to mining and creating requirements for a “social licence” to operate (Matebesi and Marais 2018; Prno 2013), these efforts lack the needed drive and engagement to make a lasting positive change and have resulted in many unintended consequences (but not unanticipated). These unintended consequences include mining companies using contract labour to limit the degree to which they need to comply with providing benefits to their workers, and mining companies attempting to employ locals but thereby enabling corruption and aggravating tension between different groups.

This lacklustre approach to mining regulation is partly due to the power struggles within government, with different collectives each fighting for their agenda (Andres, Jones, Denoon-Stevens, and Melgaço 2020). A fear of “killing the goose that lays the golden eggs” exists; this is particularly acute in South Africa given the massive unemployment rate and the historical and current role of mining in creating employment. This agenda tends to emphasise a hands-off approach to regulation of mining companies and tends to be linked to a neoliberal school of thought. Conversely, we see a different agenda, largely driven by Marxist thinking, which considers mining companies the villains. This view is due both to historical injustices perpetuated during apartheid and current practices such as low wages and use of contract labour.

This view is in itself dangerous, as it gives malicious intent to companies “amorally” attempting to make a profit and finding the “path of least resistance” to do so, noting that this is a simplification of the highly debated topic (Gray 2006; see for example Pearce and Tombs 1990). However, there is also danger in the neoliberal “hands-off” approach, given that it tends to ignore the social harms caused by mining and does not attempt to capture and maximise the long-term benefits of mining for South African citizens (In contrast, see the Norwegian North Sea oil model, Smith 2021).

The broader implication hereof for studying the governance of mining is a recognition that the issue is not simply having a strong or weak state, but also involves state unity or disharmony, namely, the ability of the state to coordinate and manage its competing internal agendas to arrive at a coherent, and consistent, position. The approach we see in Rustenburg, and in mining in South Africa in general, is disharmonious and arguably works for no one. For citizens, we see corruption, incoherent and wasted social investments, a failure to capture the social gains of mining, and consistent patterns of inequality. For mines, more broadly, the poorly articulated mining charters with their many unrealistic goals and limited guidance on how to achieve these goals are contributing to the decline of the mining sector in South Africa (Eunomix 2018).

Beyond issues of coherence and unity, the contributions in this book show the difficulty of the state in dealing with economic growth, which has a clear rhythm of growth and decline. In terms of growth, the state, mining companies, and the private sector were unable to accommodate the demand for housing that resulted due to the mining “gold rush.” In terms of services, the growth in water losses, underspending on maintenance, and poor financial management are all indicators that the municipality is failing to cope with the growing demand for infrastructure. Conversely, when questions are raised about the inevitable decline of mining in the area, we not only see a failure to acknowledge this, but conspiracy theories consider mine decline a *bourgeoisie* plot to abscond from social responsibilities.

This relates to the wider issue of the state’s inability to conceive of a future that is not growth-orientated (Denoon-Stevens 2019) and its selective listening to feedback that affirms what is desired while ignoring discomforting signals. As Charlton (2018, 2168) argued with regard to the state, “the ‘will to improve’ is not matched by a deep ‘will to know,’ in part because the capacity to act under difficult circumstances is argued to depend on a form of ‘not knowing.’ ”

For studies of mining and governance, the issues of developing a unified and realistic policy stance and of addressing the rhythm of mining growth and decline (and myth of perpetual growth) require grappling with difficult issues such as the thought styles, thought collectives, and collective mood

(*Stimmung/Nastrój*) of the individuals comprising the state apparatus. Namely, the state is made of people who think in particular ways and the ability to foster change depends on our ability to identify these different thought collectives, explore how and why they think the way they do (Douglas 1986; Fleck 1935), and use this understanding to recruit powerful stakeholders into one's "change coalition" (Kotter 1996). This is critical for understanding the path-dependence of the state regarding mining policy and how these thought styles hinder the state from understanding reality, finding consensus or creating realistic, evidence-based policy on mining. This would allow us to move beyond a theoretical dependence on theories that are based on correlation and to address the deeper structural issues of why certain dysfunctional approaches to the governance of mining and mining areas continually manifest and persist in the Global South.

CONCLUSION

The most pertinent lesson this edited volume has for other case studies is the necessity of having a strong state that is willing to acknowledge the hard truths of mining and is capable of adapting rules and regulations to changing mining circumstances (including mines' responses to existing policies) to achieve the best outcome for its citizens. In effect, this is an argument against the neoliberal stance that has dominated mining for decades (Chapter 1), and a return to an activist and interventionist approach to regulation of mining activities (Ambe-Uva 2017). This volume's contributions also showed that policy responses to mining activities cannot merely consist of generalised regulations with simplistic notions of how the world works. Instead, they require the state to recognise the complexity of everyday life and governance, and the limitations this places on what can be planned for and the need for adaptive policy responses grounded in frequent empirical evaluation and refinement (Marais, Nel and Cloete 2019; Rauws 2017). Failure to achieve this leads to the deterioration of negative externalities and an inability to capture the potential social value from mining investments.

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INDEX

A

abuse, 184, 192, 210, 213, 221, 222, 272
access to formal education, 236, 250
accessibility, 44, 62, 64, 65
accommodation(s), 42, 46, 63, 94, 125, 265, 267, 279, 282, 288
accountability, 2, 3, 163, 165, 186
actual and potential negative impact(s), 233, 237, 238
adverse effect(s), xix, 5, 210, 259
African National Congress, 262, 280
agriculture, 58, 75, 81, 86, 160, 182, 209, 233
AIDS, 194, 266
alcohol abuse, 210, 221, 222
alternative energy, 79
ANC, xxi, 19, 262, 264, 277, 278, 280
annual financial statement(s), 245
annual report(s), 161, 245
anticipated consequence(s), 260
assessment(s), 126, 128, 153, 189, 202, 247, 251
asset(s), viii, xi, xvi, 8, 21, 42, 44, 45, 49, 52, 53, 54, 64, 93, 95, 96, 98, 99, 100, 107, 108, 109, 114, 116, 141, 142, 143,

144, 145, 146, 153, 154, 155, 157, 162, 165, 171, 176, 223, 243, 244, 253

asthma, 183, 189, 291
audit, 163, 165
authorities, 53, 55, 76, 80, 122, 147, 169, 268, 273, 279, 289, 290, 292, 293

B

basic service(s), 8, 18, 50, 53, 63, 64, 74, 126, 131, 136, 137, 138, 161, 163, 166, 167, 190, 236, 291
beneficiaries, 192, 211
biodiversity, 186
Black Economic Empowerment, 264, 270
boom or bust, 285
borehole(s), 187, 189, 266
budget allocation, 173
bureaucracy, 162
Burkina Faso, 184
business model(s), 260, 270, 275
by-product(s), 26

C

capital(s), xv, 4, 8, 39, 45, 46, 49, 51, 84, 85, 92, 140, 156, 160, 164, 172, 182, 190, 235, 245, 253, 264, 290

case studies, xviii, 6, 43, 97, 114, 124, 127, 129, 137, 223, 231, 296

causal inference, 97, 114

civil society, 7, 124, 126

civil war, 209

climate change, 86

coherence, 4, 295

collaboration, 26, 76, 77, 79, 83, 84, 85, 87, 88, 123, 134, 247, 264, 290

communication, 56, 128, 129, 134, 135, 194, 195, 211, 235, 236, 279

communication with communities, 235

company town(s), 1, 2, 121, 142, 145

compound(s), 4, 142, 145, 167, 174

conflict resolution, 195

conflicting, xvii, 123, 179, 180, 181, 194

contamination, 183, 187

coronavirus, 75

corporate governance report(s), 245

Corporate Social Responsibility (CSR), xxi, 8, 9, 185, 196, 199, 201, 253, 282

correlation, xvi, 119, 120, 235, 296

corruption, 85, 120, 127, 137, 163, 192, 268, 277, 279, 294, 295

cosmetic, 277

cost(s), xiii, 4, 19, 21, 29, 71, 80, 166, 171, 221, 235, 279, 289

cost structure(s), 80

cost-benefit analysis, 171

counterbalance, 286

creditor(s), 165, 172

crime(s), xviii, 31, 163, 167, 184, 201, 208, 209, 210, 211, 215, 220, 221, 222, 223, 225, 228, 236, 239, 266, 274

culture(s), 62, 210, 211, 264

D

democracy, 84, 278

developed countries, 192

developing countries, 163, 181, 184, 186

development programmes, 192, 233, 237, 238, 245, 246, 247, 248, 249

E

earnings inequality, 94

economic development, xviii, 65, 77, 79, 83, 88, 154, 160, 186, 209, 226, 231, 238, 245, 246, 247, 248, 290

economic empowerment, xxi, 264

economic growth, 6, 23, 133, 190, 191, 192, 209, 210, 295

economic status, xviii, 84, 207, 208, 211, 213, 231, 232, 239, 249

economically isolated communities, 250

education, 51, 55, 102, 140, 144, 204, 236, 239, 240, 241, 247, 250, 251, 286, 291, 293

electricity, xvii, 2, 20, 50, 54, 98, 107, 108, 128, 159, 160, 162, 163, 166, 167, 168, 169, 171, 288, 291

embedding sustainability information, 235

enterprise development, 50, 191, 226, 247

equality, 238

equipment, 20, 23, 24, 27, 40, 54, 56, 132, 144, 171, 189, 192

external report(s), xviii, 231, 235, 237, 249, 250

extractive industries, xvi, 13, 119, 120, 121, 136

F

financial capital, 245, 290

financial distress, xi, xvii, 159, 160, 164, 172, 174
 financial performance, 232, 234, 235, 253
 financial system(s), 130, 166
 formal education, 236, 250

G

Gauteng city-region, 40
 Global Competitiveness Report, 163, 177
 Global Reporting Initiative 413 (GRI 413),
 xii, 237, 238, 245, 254
 governance and environmental issue(s), 234

H

health care, 191, 240, 248, 250, 251, 272, 277, 286, 290
 health service(s), 241
 homeownership, 2, 142, 143, 144, 145, 146, 151, 153, 154, 155, 247, 293
 household income inequality, 94
 household poverty, 94
 housing backlog(s), 193, 236
 housing shortage(s), 160
 Human Immunodeficiency Virus (HIV),
 xxi, 167, 188, 194, 236, 239, 266

I

illegal mining, 193, 247
 impact assessment(s), 128, 202, 227, 229, 233, 237, 238, 245, 246, 247, 248, 251
 impression management, 232, 235, 252
 indigenous people(s), 184, 185, 189, 248
 informality, xvi, 141, 142
 institutional ownership, 243
 integrated report(s), xxii, 232, 235, 236, 245, 255

integration of financial and non-financial information, 235
 International Bank for Reconstruction and Development, 67

L

land conversion, 238, 248
 Land Use Policy, 9, 89, 90, 157, 298
 livelihood(s), vii, xi, xiv, 8, 39, 40, 42, 43, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 57, 58, 63, 64, 65, 66, 67, 71, 76, 182, 183, 188, 189, 196, 197, 198, 201, 203, 204
 living condition(s), xiii, 4, 18, 94, 121, 122, 125, 142, 146, 155, 184, 194, 266, 289
 local communities, xii, xviii, 74, 191, 192, 231, 233, 234, 235, 237, 238, 242, 244, 245, 248, 251, 252, 254, 291, 292
 local community consultation committee(s), 238, 246
 local community engagement, 237, 238, 248
 local government, xvi, xvii, 2, 39, 76, 80, 86, 87, 119, 120, 121, 122, 123, 124, 129, 131, 132, 136, 137, 138, 139, 142, 161, 162, 165, 178, 180, 194, 196, 263
 local infrastructure, 160, 236, 292
 Lonmin, xiii, 4, 18, 19, 20, 21, 22, 29, 32, 34, 35, 94, 125, 236

M

migrant labour, 143, 146, 184, 236
 migration, xi, 9, 41, 121, 142, 151, 152, 154, 160, 174, 184, 189, 201, 287
 mine closure(s), xvi, xix, 6, 71, 73, 74, 75, 76, 87, 141, 142, 143, 145, 146, 154, 155, 247, 285, 290
 mine housing policy, 260
 mineral resource report, 245
 mineral resource(s), xvi, 73, 119, 120, 136

mineworker recruitment, 260
 mining community, 94, 213
 mining history, xviii, 12, 207
 mining town(s), xvi, xvii, xviii, xix, 2, 13,
 70, 71, 72, 83, 88, 95, 114, 115, 120,
 122, 124, 137, 142, 143, 159, 207, 208,
 210, 211, 212, 213, 214, 216, 218, 220,
 221, 224, 225, 226, 285, 287, 288
 municipal expenditure, xvii, 159, 160, 173
 municipal finance(s), xvii, 159, 160, 288
 municipal revenue, 160

N

narrative reporting, 235
 natural resource consumption, 238
 natural resource(s), xvi, 86, 119, 120, 136,
 180, 181, 209, 212
 negative economic, 250
 non-financial reporting, 232, 233, 234, 235,
 252

O

open town(s), xvi, xvii, 1, 2, 3, 6, 119, 121,
 146, 159
 operational impact assessment(s), 246
 outsourcing in mining, 260
 ownership, viii, 19, 22, 53, 96, 98, 99, 107,
 108, 114, 148, 155, 157, 192, 243, 244

P

participatory processes, 238, 247
 perception, 42, 180, 224, 233, 250, 269, 292
 platinum, vii, xiii, xiv, xv, xxii, 1, 2, 3, 4, 5,
 6, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20,
 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32,
 33, 34, 35, 36, 37, 39, 40, 41, 42, 49, 53,
 54, 56, 66, 69, 72, 76, 78, 80, 81, 82, 83,

84, 89, 94, 115, 124, 125, 128, 132, 134,
 147, 152, 155, 165, 166, 169, 175, 176,
 187, 188, 189, 190, 191, 193, 196, 197,
 198, 199, 201, 202, 203, 204, 208, 221,
 222, 233, 236, 243, 244, 249, 251, 252,
 254, 255, 256, 260, 265, 280, 281, 282,
 285, 289, 290
 platinum mining, vii, xiii, xiv, xv, 3, 4, 11,
 16, 17, 20, 39, 41, 42, 53, 56, 78, 115,
 124, 155, 166, 169, 196, 221, 222, 233,
 249, 285, 289
 pollution, 20, 59, 126, 131, 137, 182, 188,
 189, 215, 220, 221, 222, 238, 248, 250
 population, 6, 86, 88, 122, 131, 136, 147,
 160, 161, 166, 167, 171, 174, 180, 189,
 190, 194, 210, 212, 214, 260, 288
 potential investor(s), 245, 251
 poverty, viii, xviii, 43, 47, 75, 79, 94, 99,
 100, 107, 110, 111, 117, 144, 208, 209,
 225, 233, 236, 239, 249, 250, 271, 272
 poverty level(s), 236, 250
 poverty line, 99, 110, 111, 117
 private sector(s), 77, 87, 124, 130, 133, 264,
 295

Q

quality of life, xii, 24, 189, 195, 208, 210,
 213, 215, 217, 218, 220, 223, 225

R

raw material(s), 180
 recycling, 27, 51, 82
 remote mining communities, 211, 236
 reputation, 233, 234, 235, 248, 250
 reputational damage, 234
 resettlement, 238, 248
 resource(s), xvi, 19, 43, 45, 46, 47, 48, 50,
 53, 56, 73, 75, 79, 82, 86, 119, 120, 121,
 126, 134, 136, 144, 160, 161, 162, 163,

180, 181, 190, 208, 209, 212, 235, 260, 271
 restructuring, 5, 247, 262
 revenue, viii, xvii, 12, 22, 74, 159, 160, 162, 163, 164, 167, 168, 169, 170, 172, 173, 174, 175, 181, 288
 right(s), 42, 52, 85, 120, 127, 162, 169, 182, 184, 185, 188, 191, 194, 283
 risk(s), 5, 6, 21, 60, 74, 83, 85, 86, 143, 146, 155, 163, 182, 183, 193, 194, 234, 275, 276, 286, 288, 290

S

safety, 19, 40, 43, 51, 185, 186, 238, 266
 settlement(s), xvii, 2, 3, 19, 42, 71, 79, 81, 121, 128, 142, 147, 151, 190, 194, 204, 263, 265, 266, 267, 272, 275, 279, 288, 293
 social and cultural impact on communities, 251
 social benefit(s), 181
 social impact assessment(s), 202, 238, 246, 251
 social licence to operate, 247
 social unrest, 2, 291
 socio-economic and regional partnership(s), 247
 socio-economic expenditure, 247
 socio-economic factor(s), 236
 socio-economic investment, 244, 249
 socio-economic status, xviii, 84, 207, 208, 213, 231, 232, 239, 249
 stakeholder engagement plan(s), 238, 246
 stakeholder(s), xv, xvi, 70, 79, 81, 82, 87, 88, 120, 121, 122, 123, 124, 125, 126, 127, 130, 131, 133, 136, 137, 138, 180, 191, 194, 195, 213, 234, 238, 246, 247, 250, 251, 254, 275, 290, 296
 street model(s), 40, 44, 63

structure(s), xi, 12, 45, 48, 49, 50, 125, 135, 151, 191, 211, 214, 225, 270
 sub-Saharan Africa, 56, 287
 sustainability report(s), 232, 233, 234, 235, 245, 251, 293
 sustainability reporting, 232, 235, 251
 sustainable development, 3, 9, 67, 80, 91, 139, 156, 176, 180, 186, 187, 190, 195, 198, 199, 201, 202, 204
 sustainable economic growth, 190

T

terrestrial ecosystem(s), 190
 territory, 56, 185
 tertiary sector(s), 79
 the body, 40, 46, 47
 threat(s), 53, 55, 87, 261
 trade, xix, 23, 54, 82, 91, 97, 126, 147, 259, 262, 276, 277, 279
 trade union(s), 97, 126
 trade-off, xix, 82, 147, 259, 262, 276, 277, 279
 traditional authorities, 53, 76, 80, 268, 279, 290, 292, 293
 Truth and Reconciliation Commission, 281

U

urban, vii, xv, xvii, 2, 39, 45, 46, 47, 51, 57, 60, 61, 62, 63, 64, 70, 72, 79, 85, 121, 142, 146, 147, 162, 178, 189, 276
 urban decline, 70
 urban planning, 70, 189

V

value creation, 232, 235
 vehicle(s), xiii, xv, 3, 20, 24, 26, 27, 64, 65, 70, 147

violence, 94, 208, 213, 221, 222, 226, 260
 vulnerability, 212, 225, 238
 vulnerable and marginalised stakeholder(s),
 247

W

wage inequality, 94

wage(s), xiii, 4, 84, 115, 142, 263, 270, 276,
 294
 woman empowerment, 233
 women, xviii, 46, 53, 66, 203, 207, 208,
 210, 211, 212, 213, 215, 216, 217, 218,
 219, 220, 221, 223, 224, 225, 226, 227,
 228, 229, 248, 271, 272, 280, 287
 women in leadership, 248

Mining *and* Community *in* *the* South African Platinum Belt

A Decade after Marikana

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