

https://dspace.org/

An appropriate management strategy for informal settlements in mining areas: the case of smashblock, Thabazimbi

Siebe, Phathutshedzo

2017

https://hdl.handle.net/10539/24971

Siebe, Phathutshedzo (2017) An appropriate management strategy for informal settlement in mining areas: the case of smashblock, Thabazimbi, University of the Witwatersrand, Johannesburg, <http://hdl.handle.net/10539/24971>

Downloaded from a DSpace repository. https://dspace.org/

An Appropriate Management Strategy for Informal Settlements in Mining Areas: The Case of Smashblock, Thabazimbi

By

Phathutshedzo Siebe
Student Number: 888858

A thesis Submitted in Fulfillment of the degree of Masters Built Environment Housing to the Faculty of Engineering and Built Environment of the University of Witwatersrand, Johannesburg

Supervisor: Associate Professor Sarah Charlton

August 2017

Abstract

This research report is about the appropriate management strategy for informal settlement in mining area, the case of Smashblock, Thabazimbi local municipality situated in Limpopo province. The research seek to understand the main problem of the rapid growth of unplanned informal settlements that results in poor living conditions for the residents of Smashblock. However, the key objective of the study is to understand the options for management of the informal settlement in Smashblock. The research comes up with an appropriate intervention and management strategy for Smashblock informal settlement. The research has explored the Smashblock informal settlement with regard to its specific nature and character, the role played by Thabazimbi municipality, sector departments and mining companies or other entities; improvement, relocation and / or upgrading plan(s), the engagement of the municipality, mining companies and other sector departments with regard to the informal settlement and approaches to informal settlement improvement and management that are offered through national or local policy. The research recommends interim improvements of Smashblock prior to full upgrading, e.g. about re-blocking, health and safety improvements, improved management or access to current water provision and sanitation.

Declaration

I affirm that this research study is my own work submitted through the supervision of my supervisor. All information used in this research has been acknowledged. This research study is being submitted to the University of the Witwatersrand for the Master's degree in Built Environment Housing. This research study has not been submitted for any examination or degree at any other institution.

P. Siebe

…….. March 2017

Dedication

I would like to dedicate this research to my partner Tshilidzi for her support and motivation. I also dedicate it to my mother Sarah Siebe and my father Asivhanzhi Ronny Siebe, my sister Nkhumiseni Valencia Siebe, my cousins Vusani Stanley Matshidze and Funanani Winnie Malima; and not to forget my beloved best friend Rabson Lungu Gogogo, who gave me unstinting support. I love you, and may god bless you and help you in maintaining support for each other. Ndi ya livhuwa.

Acknowledgements

My sincere appreciation goes to my supervisor, Associate Professor Sarah Charlton, who guided me through the many difficulties I experienced during the research study. Your motivation and advice inspired me to complete this research. I also wish to acknowledge the advice and support of Professor Onyumba and Dr. James Chakwizira of the University of Venda's Urban and Regional Planning Department.

List of Abbreviations

AIDS-Acquired Immune Deficiency Syndrome

ANC-African National Congress

BNG-Breaking New Ground Policy

CCM-Cronimet Chrome Mining

COGHSTA- Limpopo Department of Cooperative Governance Human Settlement and Traditional Affairs

Dep.of Mins- Department of Mineral Resources

HDA- Housing Development Agency

IDP- Integrated Development Planning

ISUP-Informal Settlements Upgrading Programme

LOA- Living Out Allowance

MDGs –Millennium Development Goals

MEC- Member of Executive Committee

MOU- Memorandum of Understanding

MPRDA- Mineral and Petroleum Resource Development Act

NDHS- National Department of Human Settlements

NUSP- National Upgrading Support Programme

RDP- Reconstruction and Development Programme

PIE- The Prevention of Illegal Eviction Act (19 of 1998)

PGM-Platinum Group Metals

RSA-Republic of South Africa

SDF-Spatial Development Framework

SMMEs- Small Medium Micro Enterprise

Stats SA- Statistics of South Africa

UN-United Nations

Table of Contents Page

Title page i
Abstract ii
Declaration iii
Dedication iv
Acknowledgement v
List of Abbreviations vi
List of Figures vii
List of Tables viii

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 An Overview

1.2 The Problem Statement

1.3 The Rationale of the Research

1.4 The Research Questions

1.5 The Aim and Objectives of the Research

1.6 Summary of the Research Methods

1.7 Structure of the Research Report

CHAPTER 2: LITERATURE REVIEW

2.1 An Overview

2.2 Mining in South Africa

2.3 Circular Labour Migration Housing Mineworkers; an Australian Perspective

2.4 Housing Miners; the South African Philosophical Divide

2.5 Housing Mineworkers in the Pre-1994 period

2.6 Housing mineworkers Post-1994

2.6.1 The Constitution of South Africa (1996)

2.6.2 The South African Mining Charter

2.6.3 The Minerals and Mining Policy for South Africa (1998)

2.6.4 The Broad-Based Socio-economic Empowerment Charter for the South African Mining industry

2.6.5 Mining Charter Score Card Elements

2.7 The Code of Good Practice for the Mining industry

2.7.1 The National Housing Code

2.7.2 Housing and Living Conditions Standards for the Minerals Industry (2009).

2.8 The Rise of Informal Mining Settlements

2.9 Characteristics of Informal Settlements

2.10 Land Invasions by Informal Settlements

2.11 Upgrading informal settlements

2.12 Mining Unions and the Accommodation of Miners

2.13 The Presidential Intervention for Sustainable Mining Towns of 2012.

2.14 Redesign and Upgrading of Informal Settlements

2.15 Accommodating Emergency Services in Redesigns

2.16 Securing of Tenure in Informal Settlements

2.17 Conclusion

CHAPTER 3: RESEARCH METHODS

3.1 An Introduction

3.2 Research Approach

3.3 Data Collection

3.4 The Limitations of Research Methods

3.5 Ethical Considerations

3.6 Selection of Participants

3.7 Data analysis

3.8 Conclusion

CHAPTER 4: THE NATURE OF SMASHBLOCK INFORMAL SETTLEMENT

4.1 An Overview

4.2 Location, Physical Land Characteristics and Surrounding Land Uses

4.2.1 Location

4.2.2 Surrounding Land uses

4.2.3 Land Characteristics of Smashblock

4.3 Land Ownership and Tenure

4.4 Demography

4.4.1 Place of Origin

4.4.2 Dominant Language

4.4.3 Income Levels

4.4.4 Levels of Education

4.4.5 The Profile of the Residents

4.5 Infrastructure and Services

4.5.1 Water

4.5.2 Sanitation

4.5.3 Electricity

4.5.4 Road and Storm water

4.5.5 Solid Waste

4.6 Facilities and Transport

4.6.1 Schools and Attendance

4.6.2 Social Facilities

4.6.3 Health Facilities

4.6.4 Bus and Taxi Services

4.6.5 Housing Conditions

4.6.6 Economic Activities

4.7 Conclusion

CHAPTER 5: GOVERNING, MANAGING AND PLANNING SMASHBLOCK

5.1 An Overview

5.2 Governing or Management of Smashblock

5.3 Plans for Smashblock Informal Settlements

CHAPTER 6: ANALYSIS AND CONCLUSION

6.1 An Overview

6.2 What is the specific nature and character of Smashblock Informal Settlement?

6.3 What role is played by the municipality, sector departments and mining companies in the improvement and management of Smashblock?

6.4 Do the municipality or other entities have improvement, relocation and / or upgrading plans in place?

6.5 Do the residents engage the municipality, mining companies and other sector departments regarding the informal settlements?

6.6 Does the municipality have adequate budgets to improve infrastructure in the area?

6.7 What approaches to informal settlement improvement and management are offered through national or local policy?

6.8 Do the mining companies provide affordable housing allowances to the workers and determine how the living-out allowance works in practice?

6.9 Recommendations

References

Appendices

Appendix 1: The survey instrument

Appendix 2: List of Interviewees

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 An Overview

This study explores what an appropriate management strategy could be for informal settlements in mining areas, using a case study in Schilpadnest 385 KQ and Zwartkop 369 KQ, popularly known as Smashblock, in Thabazimbi Municipality, Limpopo province. UN Habitat, a body that has studied informal settlements globally, states that unlawful dwellings are residential areas where dwellers lack security of tenure, usually lack basic services, and are areas that are overcrowded, exposed to environmental, social and economic dangers, and in addition the housing does not comply with building and planning regulations (UN-Habitat 2015:1).

Similarly, Tshikotshi (2009) in the study of an informal settlement near Rustenburg (in the same overall sub-region as Smashblock) defined informal settlements as illegal and unplanned shantytowns with a shortage of decent infrastructure and basic services.

This research provides an overview of the appropriate management strategies for informal settlement in the mining areas. It seeks to understand the main causes and the character of Smashblock informal settlement and provide a possible solution for the management of this example of an informal settlement in a mining area, taking into consideration the existing housing policies and strategies or plans.

This chapter indicates the research problem, i.e., the main problem of the study, the rationale of the research, the key research questions, the research aim and objective and the summary of the research method.

1.2 The Problem Statement

The study seeks to understand the appropriate management strategy for informal settlements in mining areas, using Smashblock in Thabazimbi as a case in point. The following problems are identified:

In relation to the particular case study the main problem is the rapidly growing un-serviced informal settlement that results in poor living conditions for the residents of Smashblock. It is growing in the sense that the number of shacks are increasing. Some portions of the land have dolomite substrata which may be difficult to develop

or require the relocation of some residents. Further, the settlement is not part of an established urban area but is rather in an isolated area next to farming and mining operations. A significant proportion of the population in the settlement is likely to be employed in or otherwise linked economically to the platinum mining industry and is affected by its wage structure and other mining policies. The mining activities in the surrounding areas have varying economic life spans. Given these conditions, some of which are specific to mining areas, the research problem is that:

- It is not clear what improvements are most appropriate for Smashblock and what a good management strategy for the area would be.

1.3 The Rationale of the Research

The motive of the research is to explore in what way the particular conditions and context of this informal settlement, strongly associated with platinum mining, are important in conceptualising an improvement and management strategy. For example, is full upgrading through the programme in the National Housing Policy and Strategy most appropriate, or some alternative to this? According to the Breaking New Ground (BNG), elimination of informal settlements means *in situ* upgrading by means of the establishment of informal settlements in the classified / existing areas by means of provision of land, municipal services and social facilities. Relocation can only be taken into consideration where development is intolerable or not required, and must be centred on a supportive and voluntary basis (DoH, 2004. According to Thabazimbi Local Municipality, 7% of one of the farms underlying the settlement has dolomite and as a result relocation may be an option or other alternatives may be considered if possible. However, this research will consider more broadly what makes most sense for improvements in the area and why this is the case.

1.4 The Research Questions

The research will respond to the crucial question:

What is an appropriate improvement intervention and management strategy for informal settlements in mining areas as in the case of Smashblock, Thabazimbi?

Intervention means physical upgrades such as a road, sanitation etc. - or it could also include social schemes; management strategy could refer to ongoing management, e.g., the maintenance of public space and public infrastructure. However, there are sub-questions that originate from the main question that I would also seek to report in order to reach an informed conclusion:

- What is the specific nature and character of Smashblock informal settlement?
- What role is played by the municipality, sector departments and mining companies in the improvement and management of Smashblock?
- Do the municipality or other entities have improvement, relocation and/or upgrading plans in place?
- Do the residents engage the municipality, mining companies and other sector departments regarding the informal settlement?
- Does the municipality have adequate budgets to improve infrastructure in the area?
- What approaches to informal settlement improvement and management are offered through national or local policy?

1.5 The Aim and Objectives of the Research

The main purpose of this research is to understand options for the management of informal settlement in the mining areas, focusing specifically on Smashblock.

The specific objectives are summarised as follows:

- ❑ To understand the nature and character of the Smashblock informal settlement
- ❑ To provide the possible solutions for the management of Smashblock informal settlement.
- ❑ To indicate policy that can be used and suggest possible recommendations.

1.6 Summary of the Research Methods

The research was qualitative, using document review (e.g. policies, plans) and interviews. Focus group discussions and interviews were conducted to build a picture

of the settlement and understand key people's views of the settlement and its future. The following were to be interviewed,

- Two focus groups discussions with the residents of Smashblock
- Community leaders, i.e., ward councillor, civic organisation leader, religious group leader (through a focus group).
- Government Official: municipal planner, municipal engineer and official and provincial authority (through individual interviews).
- Ten mining workers, mining union representative, and other residents (through a focus group).
- 1 mining worker: employee responsible for housing (through an interview).

1.7 Structure of the Research Report

The remainder of the report is arranged into six chapters in the following way:**Chapter 2** (Literature Review) gives a theoretical overview on housing and informal settlement in mining areas and also discusses key policy. This chapter discusses circular labour migration in mining areas, the Australian perspective on the housing of mineworkers, and housing for mineworkers in the pre- and post-1994 periods, it also discusses the Republic of South Africa Constitution, the Mining Charter of South Africa, the Broad-Based Economic Empowerment Charter for the South African mining industry, Mining Score Card Elements, the Code of Good Practice for Mineral Industry (the National Housing Code), and the mineral sector's housing and living conditions standards. Furthermore, the chapter considers the rise of informal mining settlements, the characteristics of informal settlement, land invasion associated with informal settlements, the management of informal settlements, informal settlements' upgrading, mining unions and the accommodations of miners, the Marikana incident in 2012 and living-out allowances, the Presidential intervention for sustainable mining towns and the security of tenure in the informal settlements.

Chapter 3 (Research Method) presents the research method used for this study. This chapter looks at the overview of the research method, approach, data collection, observation and the limitations of the research methods, ethical considerations, selections of participants and data analysis.

Chapter 4 (Case Study) focuses on the Smashblock informal settlement, the background and location, education levels, migration trends, mining activities surrounding the area, economic activities within the settlement, infrastructure services, housing and living conditions and land and security of tenure.

Chapter 5 (Research Results and Analysis) pays attention to the findings of this research. The synopsis of the findings were gathered from the site visits that was conducted, group focus interviews and other interviews that were conducted, observation and document review (e.g., policies, plans).

Chapter 6 (Conclusion and Recommendations) provides a conclusion for the research study, addresses the research questions and proposes the recommendations based on the findings of the research.

CHAPTER 2: LITERATURE REVIEW

2.1 An Overview

Given the importance of the mining sector in most economies, it is important that mineworkers' housing and infrastructure be addressed. Mining ventures are usually very large structures with a clearly visible physical and environmental footprint in an area. For that reason, with regard to visibility, there is also need for direct development benefits for the mineworkers, such as housing developments that meet acceptable social, economic, physical and environmental standards (Fleming *et al.*, 2015:630).

This chapter provides a perspective on what existing literature indicates concerning the phenomena of housing and informal settlements in mining areas. Whilst the focus of this research is `informal settlements' around mines; the literature touches upon the factors behind the phenomenon in the century of mining pre-1994 South Africa as well as the situation in the post 1994 period of the democratic dispensation. The discussion is organised in the following sections: The first part of the chapter covers the experience of mineworkers and housing. The second part of the chapter covers legislation and regulations. The third part of the chapter focuses on informal settlements .

2.2 Mining in South Africa

South Africa is part of a mineral rich belt of geological conditions that stretches from southern Africa, through modern Zimbabwe, Zambia, the Democratic Republic of Congo, Angola, Gabon, Equatorial Guinea, and Nigeria onto Ghana. In this belt the exploitation of minerals by the indigenous peoples goes back a few centuries. Colonial and post-colonial mining has varied from country to country with different impacts for the economies and peoples of respective countries. In terms of the extraction, South Africa, has without any doubt exploited its minerals the most in Africa. Today, South Africa is also the African country that can show the most positive impacts of mining on its economy.

South Africa accounts for 11% of the world gold reserve (Department of Minerals: 2016). African Mining IQ (2016) states that it is projected that approximately 40% of the world's gold reserves are in the Witwatersrand and 80% of South Africa's iron ore

is extracted in Thabazimbi and Sishen. Moreover, 96% of world reserves of the platinum group metals (PGM's) are accounted for in South Africa (Department of Minerals., 2016). Furthermore, 90% of platinum is produced in north western South Africa around Rustenburg (African Mining IQ, 2016). As an indication of South Africa's global leadership, the industry leader in the mining, marketing and distribution of platinum is Amplats; it produces 40% of the global total PGMs.

Beyond platinum, South Africa is ranked 5th in world coal production with 224 million tonnes of marketable coal being produced each year. South Africa's major coal fields are located in the Lowveld and Highveld, with Ermelo and Witbank being the main mining hubs (African mining IQ: 2016). Lephalale, located to the north west of Ermelo and Witbank, is another coal mining hub in South Africa.

Corno and De Walque (2012: 4) have pointed out that mining has been a dominant economic sector in South Africa for a long time in its recent history. Mining has therefore driven the growth, development and transformation of not only the economy but also has shaped various facets of the South African society. Besides the minerals mentioned above, South Africa has been the world top producer of platinum, ferrochromium and gem diamonds during the 20th century. South Africa is also the biggest manufacturer of chrome group metals and producer of vermiculate, vanadium and manganese (African Mining IQ: 2016). In addition, it is the second largest global producer of rutile, palladium, zirconium and ilmenite (*ibid.*).

According to the Dept. of Min (2016), gold and platinum are the leading minerals in terms of investment, employment and revenue generation. The gold mining industry in South Africa employs an estimated 160 000 people (*ibid.*).

2.3 Circular Labour Migration

The regional migrant system present in South Africa originated from the first mining settlements established with the discovery of diamonds in the year 1866 at Kimberly. Through the finding of gold in Johannesburg in 1886 (Corn and De Walque: 2012), mining areas and other mining clusters in the country attracted both local and international labour in search of prosperity and employment. Initially, mining

employed labour-intensive technologies and methods, as the introduction of capital intensive mining machinery was still to make its presence felt only in the future. These labour intensive methods attracted large populations of labourers to service mining's primary and secondary industry needs. Consequently the mining industry generated employment opportunities for the people of Southern Africa. This incorporates people from modern day Swaziland, Lesotho, Botswana, Mozambique, Zimbabwe, Zambia and Malawi; countries that have been the main source of workforces for the mining industry in South Africa (Corno and De Walque, 2012: 4)

The migrant system emerged as a solution to the labour shortages in South Africa in what became the `circular migration' system. Nunez (2009:3) defines the circular migration concept as based on the assumption that migrants can give rise to development in their home town or country if they can *'circulate'* between home and host city or the mine, as in this case.

In Southern Africa, the distinctive pattern of labour migration, which ascended through policy and cultural adaption over many generations, laid the foundation for the definition of a `temporal circular migration' (STATSS, 2006:4), which means that migrant labourers move from home to the host area for work. The same notion holds with regard to a household based in a peri-urban or rural setting that can have one or more linked temporary migrants remitting money back from the place of work (*ibid.*). Arising from the importance of mines as places of labour intensity in the early employment landscape of Southern Africa, circular migration represents a huge percentage of the movement among the African Black population (STATSSA: 2006:4).

There are a variety of migration patterns, some that have indirect links to mining. Circular migration refers to a situation when the usual place of residence remains in the peri-urban or rural setting, but a person migrates regularly for education or employment purposes to an employment centre such as a mining town or area. However, an interesting dimension of circular migration is the fact that the "migrant or immigrant" remains and stays connected to the origin or home or sending region through sending household goods, various forms of remittances, contributions to societies, clubs and activities, through communication, steady return visits and with a

high likelihood of non-monetary remittance or cash (STATSSA: 2006). These interactions, linkages and interrelationships ensure that ties with the home or family are not broken but are strengthened instead (*ibid*.).

There is a distinct difference between the circular migrations of the apartheid era and today. Miners went back home during apartheid annually or twice a year. However, at present mineworkers go back home monthly or twice a month, prompting a more intensive pattern of regular circular migration from the place of origin to the mine and back to the village again. (Stuckler *et al*., 2011).This increased frequency and intensity of the commuting trips is the result of the removal of laws and regulations restricting movement within South Africa. However, it is estimated that well over 50 000 people in Lesotho alone (and these are predominantly males) migrate to South Africa for work every year (*ibid*.).

This circular migration pattern has both its positive and negative aspects for the migrant worker and his/ her home population. The positive aspects focus around the remittance of money for the developmental agenda of the home population. Therefore, knowledge and skills are exchanged (Stuckler *et al*., 2011). Today, rural populations are exposed by migration from normally low incidences of HIV and TB to sharp increases of these viruses since mobile migrants can be the transmitters of those diseases. In addition, circular migration also causes severe problems with diagnoses, the continuation of care and referrals for those mineworkers and their spouses who become infected with tuberculosis (*ibid*.).

In essence, the migrant labour system was established in South Africa to provide for the requirements of mines and, basically, to assure the supply of labour for mining (Amnesty International, 2016). Part of the migration picture was the racial balance in mining towns. In the history of mining, the general picture was one of a small number of Caucasian mine owners and managers with a much larger black labour force. In 1980, 90% of the 700,000 workers employed in the mining industries of South Africa were blacks (Corno and De Walque, 2012). It is also noted that the majority of mining migrant labourers came from neighbouring countries, as noted above. Due to a minimal resource base in Lesotho, from 1986 to 1996 the largest numbers of mining migrant workers in South Africa were from Lesotho. During that time Basotho

labourers made up more than 40% of the total workforce in the South African mining industry (*ibid.*).

The foreign migrants contribute to community development in mining towns / areas where they are employed (IMPLATS Report, 2004). The mining company contributes taxes and either invests or consumes various goods and services offered in the area in which it operates (*ibid.*). The migrant labourers also contribute tax to the government.

Moving on to more recent literature on migration, it has been established that regional labour migration studies in South Africa highlight that the majority of interviewed workers were from the Eastern Cape, Swaziland, Mozambique and Lesotho where rural economies have collapsed (Chinguno: 2013,19).

Corno and De Walque (2012) have noted that Swaziland and Lesotho, followed by Botswana and Mozambique, are providing the larger part of the foreign workforce in South Africa's mining industries. Chinguno (2013) argues that people who find employment in the mines usually start with entry-level jobs and seek to move to higher positions over time. One motive for this state of affairs is the fact that most mining migrants possess low education qualifications.

This observation is corroborated by other research that indicates that the majority of underground workers at London Minerals plc, known as Lonmin, are migrants, mostly from the Eastern Cape, followed by Lesotho, Swaziland, Mozambique, Zimbabwe and people from other Southern African countries. In addition, such migrants were prepared to take higher risks by occupying or doing the most dangerous work/jobs frequently shunned by locals (Chinguno: 2013). Chinguno (2013) argues that the spatial changes in the geography of the mining settlements relate to the proliferation of informal settlement and the finding that many migrant workers have two families (*ibid.*). One family is where they work and other family at the place of their original home (*ibid.*). The phenomenon of multiple wives and or polygamy, while it is an individual choice, can also be argued to be partly encouraged by the mining system.

2.4 Housing Mineworkers; an Australian Perspective

The Australian perspective on housing for mineworkers is intended to illustrate how the planning and other issues that housing for mineworkers raise have been dealt with elsewhere in general and specific terms. The South African Mining Charter states that `Human privacy and dignity for mine employees are argued to be essential hallmarks in seeking to enhance production and fast-track transformation in the mine sector as a result of living condition and housing' (Mining Charter Assessment Report, 2009). Laudable as this argument may be, in the examples of South Africa and the Bowen Basin mining towns in Australia the growing workforce has exceeded the available housing and land supply in most mining towns (Morrison, Wilson and Bell, 2012:482). ''Mining towns are usually bounded by good quality agricultural land and mining leases, meaning that there is a critical shortage of residential development'' (ibid). .

There are various ways in which workers' accommodation matters are dealt with at the Sossego Mine in Australia (Costa and Scoble, 2006: 19). A hundred houses were built for mineworkers and allocated to workers with families or as shared houses for single workers (*ibid.*). In Australia mining industries perform both an indirect and direct function in the delivery of housing for mineworkers (Mackenzie, Fiona and Rowley, 2013: 377).

In some cases highly paid mining employees engulfed the housing sector by increased demand and the unplanned effect of this was that it squeezed out those mineworkers and others who were not even part of the resources industries and who could not meet the expense of the increased cost of accommodation (Cheshire *et al.* : 2011). This situation creates a "quasi" monopoly in the housing market and restricts access to housing property (Mackenzie, Fiona and Rowley, 2013: 377). However, Fifo mines in Australia make provision for on-site accommodation for those workers who have to travel long distances from home to work on the mine. (Cheshire *et al.*, 2011:126).

Moranban in the Queensland (Bowen Basin Region) and Karratha in the Pilbara regions of Western Australia are mining towns that frequently experienced housing shortage crises for many decades. Both areas are dominated by large scale mining.

The Bowen basin is dominated by coal and Pilbara by iron ore (Mackenzie and Rowley, 2013: 379). Due to their relative remoteness, both areas have utilised a model that makes their workforces rely on long distance travel to solve their mine housing challenges (*ibid*.). In this case, the model for addressing mining migrant labourers' housing needs is to settling them in nearby towns. The mining company then buys or lets accommodation for the staff. However, this has implications with regard to the provision of group or company-assisted or subsidised transport.

Their problems are a complex intertwining of safety and environmental issues. Tudor Shaft is such an example. Cairncross *et al*. (2013: 5) revealed that around 2 000 residents were living in the Tudor Shaft informal settlement on gold mine tailing dumps. Concerned, Australia's Federation for Sustainable Environment requested soil sample analysis which showed elevated levels of copper, cobalt, aluminium, arsenic, mercury, cadium, zinc, nickel, uranium and manganese (*ibid*.). In addition to that, in 2011 independent international experts found radiation levels 15 times higher than the regulated level and therefore the community was advised to relocate immediately (Cairncross *et al*: 2013: 5).

The brief Australian account above illustrates that mines face common problems with regard to a shortage of mine housing, the challenge of the provision of transport for mineworkers as well as informal settlements where workers live in extremely dangerous environmental conditions. In Australia this led to unorthodox solutions not common in South Africa.

2.5 Housing Mineworkers; the South African Philosophical Divide

Literature abound that confirm the pivotal and central role that mining houses undertook in the housing of mineworkers in South Africa. The evidence for housing mineworkers is found in both apartheid as well as in post-apartheid South Africa. However, what differs is the underlying planning philosophies that undergirded planning. During apartheid South Africa's spatial segregation and fragmentation was consciously crafted into planning designs and housing models of development. This model is reversed, at least in theory, in post-apartheid South Africa, principally through the Republic of South Africa Constitution and numerous pieces of planning legislation.

This is because in post-apartheid the intention of South Africa is to promote spatial integration as well as to achieve general spatial transformation across the whole spatial landscape in the country. Any narrative on the evolution, growth and management of human settlements in South Africa would be incomplete if the role and place of the mining industry in the South African economy is not located within it (Corno and De Walque, 2012).

Mining and the circular migration processes partly explain the emergence of dual and multiple homes in South Africa (*ibid*.). This is a process where a person or persons have more than one home. In the case of the black migrant population the mining home is referred to as a *"temporary home"* while the *"rural or origin or village home"* is the permanent or real home (*ibid.*). A comprehension and deep appreciation of this `temporary and permanent home' conceptual framework allows one to appreciate why migrant labourers are even prepared to stay in unacceptable unhygienic conditions in informal settlements at the mine while they build decent housing structures back home (Corno and De Walque, 2012).

In other words, the housing for mineworkers have undergone a distinct philosophical divide; from one that was driven by race-based *de facto'* and *de jure* `separate development', to one which in theory is to integrate a society that has been fragmented for a long time.. What is of interest is to determine if the situation of mine housing has transformed substantially for the average mine worker or not.

2.6 Housing Mineworkers in the Pre-1994 Period: Broken promises

The mineworkers (between 100 000 -120 000 workers) in Goldfield Mines in the Free State never resided in formal urban settlements; instead they were living in mining compounds or hostels situated in close proximity to mine shafts (Marais and Nel, 2016). These workers were accommodated in high density, single sex hostels near mine shafts. What was more worrying about this was the fact that in several cases mining housing was of a rather inhumane standard (*ibid*). In addition, the provided housing conditions were in direct conflict with the contemporary town planning regulations and by-laws in the area that were emphasising low densities and wide streets as were previously reserved for white people (Marais and Nel, 2016).

Amnesty International (2016) reveals that Lonmin in Marikana in the North West Province promised their mineworkers to build houses. The housing would have a similar level of services as workers who live in family units, with electricity and running water (Amnesty international, 2016). However, people are still staying in Nkaneng informal settlement without the services promised by Lonmin (*ibid.*).

Given the fact that the South African Mining Charter provides an overarching framework for migrating the mining system to provide sustainable housing for employees, it is important to appreciate that various options and strategies exist to address these matters. The mining companies can implement a raft of measures aimed at enhancing the standard of living and housing conditions for mining employees. Examples of this are as follows: Firstly, by the year 2014 upgrade or convert hostels into family units; secondly, by 2014 manage the tenancy proportion of one individual per room; and thirdly, by 2014 simplify household ownership preferences for all mineworkers in discussion with the structured workforce (Mining Charter, 2009). Most of the mines were supposed to reach set targets in 2014. However, in 2016 the targets of the Mining Charter of 2014 had not been reached. This shows that the mining companies are not implementing the South Africa Mining Charter target of 2014. The mining companies are not improving the standard of living and housing conditions of mineworkers.

It is important to add that the mining companies are obligated to play an essential role in local governance with regard to supplementing and complementing the local authority in housing delivery and services. The mining company may also engage with the state and the representatives of the community to tackle the variety of economic and social challenges faced as well as the provision of housing and addressing key employee concerns that require joint governance for resolution (Mackenzie, Fiona and Rowley, 2013: 379). The mining companies can undertake these engagements through social labour plans where the government and community can identify and resolve the issues and needs of the mining industry and its workers.

At Marikana in May 2016 22 workers were hired by Lonmin with over 50% of them continuing to live outside North West Province whilst working for Lonmin (Amnesty

International: 2016). However, almost 3 000 mineworkers are accommodated in the former hostels. This number was down from 8 000 living in hostels in 2006, resulting in a process to convert and upgrade hostel facilities into family units as required by the Mining Charter (*ibid*.).

The settlement arrangements of mining communities result from mine employee choices that are subject to inputs firstly from individuals, secondly from residential associations, thirdly organised labour and mine unions, among other stakeholders (Chinguno, 2013: 09). However, Buhlungu (2008:9) states that mineworkers reside in different configurations of compounds at different phases of their life-cycle. The following examples illustrate this: Firstly, the converting of hostel dwellings into family houses for young couples. Secondly, in informal settlements, usually for employees who have strong ties with the place of origin or new employers who use these as start-up accommodation. Last but not least are rentals from company flats, townships, backrooms and others.

Chinguno (2013: 09) stresses that affordable[1] housing improves workers self-esteem and well-being and this enables individuals to add value to the company. He further emphasises that there are over 38 informal settlements around the Rustenburg Platinum Belt where mineworkers are living (*ibid*.).

Cairncross *et al*. (2013: 5) indicate that the ownership of land around many of the mines in rural South Africa by Traditional Authorities is a main concern in platinum mining areas. The traditional authorities prefer local people to reside on their land. Moreover, the growth in the production of platinum has happened in tandem with the spread of informal settlements (Chinguno 2013: 10). This is because the mining companies' demand for labour could not be matched by the associated need for formal housing production.

Anglo Platinum Limited (2006) stated that informal settlement development around mining towns is a main problem in South Africa. The point is that in order to make a difference to the situation of informal mining settlements, the mining houses should have a good working relationship with the local municipality. As mines would be

[1] In this case study affordable housing is being used to mean the same as "gap" housing, which is entry level private housing for ownership.

expected to have their own planners, they could leverage the work of municipalities that perhaps may face technical capacity in areas such as housing, electricity, water and sanitation.

The problem is that less than 10% of the total workforce in 2006 was provided with sustainable housing by the Anglo Platinum mining company (Anglo Platinum Limited report , 2006). The big question that begs answers is what is happening to the 90% who are not provided with sustainable housing by the mining company? Either the workers go to private developers, municipalities, banks etc. to secure loans and construct houses or they end up going for easy and quick-fix housing solutions such as informal settlements (Anglo Platinum report, 2006).

Chinguno (2013) argues that post-1994, black employees were remunerated as single workers on the base that their families had the right to land which they could use for subsistence as opposed to other racial groups such as Whites, Coloureds and Indians. Chinguno correctly argues that the century old migrant system has not disappeared but continues at a slower pace given the decline of mining. Chinguno notes that a worrying trend is that some of the old mining housing systems such as fragmented or separated houses have been replaced or transformed into informal mining settlements.

Accommodation for miners in the pre-1994 era was based on the system of hostel accommodation (provided by mines for the housing needs of the labourers) (Chinguno, 2013: 08). The system was tailored to recruit male migrants primarily, as was the practice in most mines all over the world. The miners who were male were selected because of the perception that males can perform tasks that require bodily strength. Thus South African mines, as in other corners of the continent, only attracted workers of the male gender. Male miners were not allowed to bring partners and children with them to South African mines (*ibid*.). Immigrants were consequently clustered into single-sex compounds where movement was strongly controlled and regulated. Consequently, this arrangement has been explained as “the compound [or hostel] system [that] epitomised the gender discrimination and oppression at the heart of the system” (*ibid*.: 10).

Another dimension of separation was housing based on race. Again this was not exclusively South African but was the practice in mining towns all over the world. Thus in the Kimberley mining precinct and the surrounding environments, black labourers were separated from their white bosses. Black miners were accommodated in large buildings close to the mine (Cairncross *et al.*: 2013).

In the pre-1994 era mining houses seeking to maximise profits and minimise costs developed a housing model that was meant to ensure *"mining sustainability"*. This entailed controlling their black employees' numbers, activities and movements. Owing to an increase in crime in mining towns, security precautions had to be taken and the common labourers were the leading suspects (Wolpe: 1972).

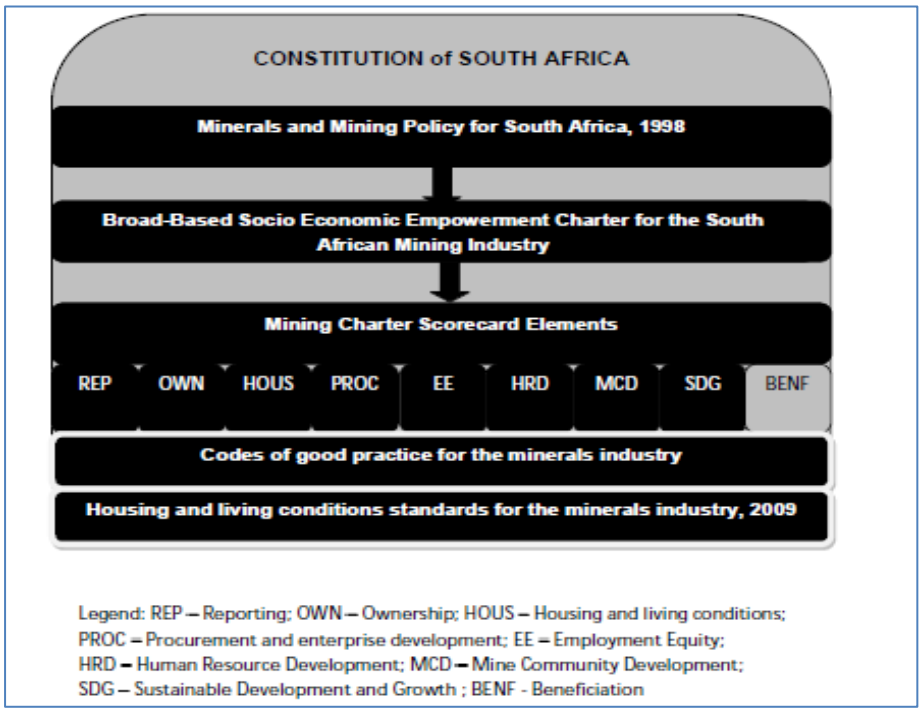
While from a profit-maximisation business model the above modes of mine operations made sense, from a humanitarian and human rights-based model, however,(and there was no such notion in the mining towns of the 19th and most of the 20th century) the rights of workers / employees or individuals to decent accommodation as well as freedom of movement and interaction were technically curtailed if we consider the situation from the present perspectives of human and workers' rights (*ibid*.).

It can be argued, and it was first argued by founders of the future African National Congress, that race separation in the diamond fields in Kimberley was therefore `sowing seeds of inequality, oppression, suppression and conflict.' Political parties with a Marxist orientation argued that the oppressive situation would require transformation initiatives to address the `inherent contradictions in the system' (*ibid*.). It has been argued in the past and at present that a mining system of a profit maximisation model was bound to be inadequate in addressing both apartheid and post-apartheid mining towns' / areas' concerns (Chinguno: 2012:9).

2.7 Housing Mineworkers Post-1994;

South Africa was different to other countries because over the past twenty years a course of transformation has been put in place as indicated in figure 1 below.

Figure 1. The Structure of the Transformation Policy Framework for the Mining Industry, South Africa



Source: Department of Mineral Resources, 2015: 9

Post-1994 mine housing has been transformed from a policy point of view by numerous policies. These, in order of promulgation, include the following;

(i) The Constitution of South Africa (1996),

(ii) The Minerals and Mining Policy for South Africa (1998),

(iii) The Broad-Based Socio-economic Empowerment Charter for the South African Mining industry ,

(iv) Mining Score Card Elements that include Reporting, Ownership, Housing and Living Conditions, Procurement and Enterprise Development, Employer Equity, Human Resource Development, Mine Community Development, Sustainable Development and Growth and Beneficiation.

(v) The Code of Good Practice for the Minerals Industry and

(vi) Housing and Living Conditions Standards for the Minerals Industry (2009).

2.7.1 The Constitution of South Africa (1996)

The Republic of South Africa Constitution of 1996 section 26 stipulates that, `everybody has the right to access to suitable housing.' The Constitution further elaborates that the government must take realistic measures and judicial procedures within its existing resources in order to attain the liberal realisation of the right. The Constitution advocates that no person might be expelled or removed from their house or have their house destroyed without a prior court order involving all appropriate situations(RSA 1996).

The Municipal Systems Act of 2000 further emphasised the role of the mining industry in local governance in terms of supplementing and complementing the local authority or municipality in housing delivery.

The pre-1994 mine housing consisted of hostels and hardly any informal housing for most of the period. The main differences between the two periods, i.e., the pre and post-1994 periods, is that in the latter period the mining industries addressed the living condition of workers *and their families* in a different manner (AngloGold 2015:2). The Mining Charter of South Africa (2009) required that mining companies establish procedures for enhancing the standard of mine accommodation as well as the following: Firstly, undertake the change of hostels into family units. Secondly, commence with the upgrading of hostels from single quarters. Thirdly, and possibly the most radical measure, was the promotion of home ownership choices for mine workers. Lastly, the major challenge of getting to a tenancy proportion of one individual per room (Department of Minerals: 2009).

2.7.2 The South African Mining Charter

The Mining Charter is a state instrument planned to effect the meaningful transformation and sustainable development of the mining industry (Department of Minerals: 2010). The Charter is also a legal tool that sets out what the South African Government expects of mining companies in terms of requirements that must be adhered to. Its Charter was revised in 2010 and made among other issues, the eradication of the hostel system a goal as well as convincing mining companies to upgrade or change hostels into family units by the end of 2014 (*ibid.*).

In other words, the Mining Charter is expected to act as a vehicle and catalyst in realising a better housing provision and service delivery system in South Africa's mining areas (Department of Minerals: 2010). The Mining Charter set an objective of 2014 as the year when transformation of single sex hostels and the delivery of excellence in accommodation for mineworkers would be completed (Chinguno 2013: 10). These planned conversions may also be considered a form of facilitating home ownership because they offer ownership to individual miners (*ibid*.). However, to date most of the mining companies in South Africa have failed to meet the deadline of 2014. A substantial number of hostels are not yet converted to family units as was planned.

The Marikana Lonmin mineworkers accommodation consists of 1 798 houses and 544 family and 95 bachelor units, with three hostel facilities for semi-skilled and unskilled workers (Chinguno 2013: 10). Lonmin therefore offers housing to about 2,342 (i.e., 8.36%) of its 28 000 direct workers (*ibid*.). Other workers have no choice but to live in the informal settlement, back yard rooms and other rental accommodation.

2.7.3 The South Africa Minerals and Mining Policy (1998)

The Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA 2002) advocates the living conditions and housing standard for the mining sector in South Africa (Dept. Minerals: 2009). One of the principles of housing conditions in terms of MPRDA 2002 was to make sure that a decent standard of housing for mine employees be established.

Firstly, the present and future development of housing must be coordinated with the mining settlement and nearby town institutional or governance structures. Secondly, the delivery of family housing should be connected with expanded community facilities and services such as social well-being, health care services, and education. Thirdly, hostel management must be done in a transparent and democratic way so that dwellers / workers participate together with the management of mines in all aspects of decision making concerning the running of housing units. Fourthly, the mining company shall establish measures for hostel upgrading and conversion to

family units. Lastly, when plans are being made for hostel upgrading or conversion into family units, the company must consult the mining chamber of South Africa for the purposes of health and safety, the National Department of Human Settlements and organised labour for their input into hostel upgrading (Dept. Mins.: 2009).

MPRDA (2002) further adjudicates that failure to comply with the standard of housing and living conditions will leave the mine company to be in breach of the Act and exposed to section 47 of the MPRDA. Section 47 of the Act advocates that Ministers have power to cancel or suspend permission, prospecting or mining rights, retention or mining permits if the employer is piloting any investigation, mining or prospecting process in breach of the MPRDA (RSA: 2002).

2.7.4 The Broad-Based Socio-economic Empowerment Charter for the South African Mining industry

The Broad-Based Socio-economic Empowerment charter for the South African mining industry advocates a transformation of the housing and living conditions of mineworkers by establishing measures for enhancing the housing standard, including the upgrading of mine hostels and conversion of some units into family units and the upgrading of household tenure alternatives for mineworkers (Broad-Based Socio-economic Empowerment Charter: 2016). The BEE also creates measures for enhancing nutrition of mineworkers (*ibid.*).

2.7.5 Mining Charter Score Card Elements

The Mining Charter Score Card contains numerous elements. The Living out Allowance (LOA) was announced in order to offer mineworkers the choice not to reside in hostels (Amnesty International: 2016). However, not all mineworkers could eventually be housed in mine hostels (*ibid.*). This was because of the numbers of miners outstripping the supply of hostel space. Sleeping space was doubled by using bunks but that just made conditions worse as the numbers of miners occupying the same space rose to unacceptable levels. This situation also had water and sanitary repercussions. Fights for space within the hostels often broke out, presenting security headaches for the mines etc.

The LOA was seen as a housing mitigation measure, i.e., a way to resolve the accommodation challenges permanently. The aim of the LOA was to give mineworkers an additional choice of residence and to support rental payment and board in settlements that are not necessarily bound directly to mining company operations (Amnesty International: 2016). The LOA was offered as alternative due to shortage of mines accommodation.

However, the LOA has given rise to unintended social issues. This is because the recipients of the money no longer used the money to fulfil its intended purpose, i.e., for securing off-mine decent accommodation. Instead the money was being utilised for other purposes besides securing decent accommodation and paying rent for lodgings etc. In reality the use of the money has become manifold (Amnesty International: 2016).

The LOA has had positive aspects as it allows mineworkers to refuse to submit to the system of hostels, but it did not take into consideration whether there was appropriate other housing available next to mining operation where they work (Amnesty International: 2016). On the other hand, the LOA was observed during preliminary fieldwork as spurring on mineworkers to end up living in Smashblock informal settlement with the aim of saving or using the R3000 Living out Allowance for other purposes (*ibid*.).

The other uses of the LOA are to supplement monetary remittances by employees to families in rural homes and at times it is used for other spending purposes such as car financing, construction of decent homes in villages of origin and debt financing(Amnesty International: 2016). One could argue that the LOA is partly responsible for facilitating the rapid development of informal settlements near mines. Preliminary research findings and observations indicate that the majority of platinum mineworkers who receive the LOA opt to live in informal settlements (Amnesty International: 2016).

2.8 The Code of Good Practice for the Minerals Industry

2.8.1 The National Housing Code

Chapter 3 of the National Housing Code for the upgrading of informal settlement deals with the procedure and process for *in situ* informal settlement upgrading (Department of Human Settlement: 2009).The purpose of this chapter on the code is discuss the enabling of the informal settlements' *in situ* upgrading, in contrast to relocation in order to attain the code following goals:

- Safety and Health: To improve a healthy and protected living environment by allowing the delivery of reasonable and sustainable municipal infrastructure and basic services to the residents.
- Security of Tenure: To enhance the notion of residency, incorporating obligations and rights by identifying and formalising the rights of tenure of inhabitants within the unlawful settlements.
- Empowerment: To use discourse on social and economic segregation by focusing on community empowerment and the enhancement of social and economic incorporation, addressing the broader societal needs of the residents and building social capital through participative processes.

2.8.2 Housing and Living Conditions Standards for the Minerals Industry (2009).

According to the National Housing Code (2009), informal settlements normally have the following features:

Informality and illegality –The occupants of informal dwellings reside in a stable state of lawful-societal anxiety as settlements have no lawful gratitude owed to the illegal use of land or illegal occupation or unlawful erection of housing upon the land. However the informal dwellings are characterised by the lack of planned growth, authorised incremental and planning.

Environmental factors and location – informal dwellings are established in a range of sites normally on property not appropriate for development. Sometimes informal settlement upgrading might be a comparatively easy issue. In some areas informal

settlements might not be upgradable because of the inappropriate situations in view of environmental and topological constraints. However, at times upgrading may be possible if extensive rehabilitation of land is undertaken. In other circumstances, settlements may be well positioned close to jobs opportunities and sometimes close to an urban fringe.

Restricted urban sector investment – Investment by the public sector in informal settlements is limited owing to the unlawful status of informal dwellings. However, the informal settlements lack access to basic services such as water, electricity, sanitation, walkways, lighting, roads, social amenities and economic infrastructure. This has discouraged residents of these settlements from investing their own resources in informal settlements.

Vulnerability and Poverty – the informal settlements' residents tend to be vulnerable and poor. From census and household surveys it is clear that the majority of informal settlement dwellers have acquired simple, basic educational qualifications and are normally prevented from competing in the general labour market. Dwellers are at high risk of contracting diseases as a result of both inhumane living conditions and poverty as well as close, crowded residential environments. s. The dual nature (home away from home) of informal settlements also causes further social fragmentation.

Social Stress – A poor living environment and poverty are the breeding grounds for exploitation, child abuse and increase in social stress, expressed in high levels of interpersonal crime as well as domestic violence and numerous social pathologies.

2.9 The Rise of Informal Mining Settlements

It was already pointed out above that the system of hostel accommodation was the standard housing for miners provided by the mining houses historically and not as is now required in terms of the South Africa Mining Charter. However, due to a number of reasons hostel housing has not managed to offer accommodation to all miners, hence the rise of informal housing in mining towns.

Informal mining settlements like all informal dwellings are characterised mainly by low quality housing structures and the poor or absolute shortage or lack of infrastructure and basic services (Bosman: 2014). The National Housing Code (2009) further highlights the locality, illegality, informality, vulnerability, poverty and environmental factors as they pertain to informal settlements. The Code further emphasises the emergence and causes and the different forms of informal settlements in mining areas.

Informal settlements are to be found in most mining areas in South Africa. Some are attached to a single mining operation or an industrial operation linked to a mine. The Mshenguville informal settlement located in Atteridgeville to the south of Pretoria is an example of an informal settlement attached to a single mine. The Ikemeleng informal settlement on the other hand is situated in the centre of five mining operations in Rustenburg. The Nkaneng informal settlement, which is located close to Lonmin mine in Marikana, is one of several clusters of informal settlements around Marikana.

It was noted in the introduction that this literature review focuses on an analysis of the intervention or management of informal settlements, especially on specific mining areas. The following are brief descriptions relating to informal settlements in Rustenburg and Pretoria areas. The intention here is to illustrate the diversity of their formation and characteristics.

Mshenguville informal settlement is located to the south west of Pretoria. The settlement is also dominated mainly by people from Zimbabwe, Somalia, Pakistan and Mozambique (Bosman: 2014). Mshenguville was established in 1988 on State land held by the Defence Force of South Africa. The settlement was occupied by homeless individuals and those located in Atteridgeville in Pretoria (Bosman: 2014:63). Most of the dwellers are former farmworkers and mineworkers.

The Ikemeleng informal settlement is located close to Kroondal in Rustenburg. The settlement was founded in the1990s on the tribal land of Chief Bapo Ba Mohale by a large number of migrant labourers due to the lack of housing provision by a mining company (Rustenburg Community Report, 2011: 29). The formation of informal settlements in most mining areas was initiated by migrant labours and people who

was looking out for work around the mining area. Census 2004 reveals that 1 358 households were living in Ikemeleng informal settlement (*ibid*.). The settlement is located in the midsty of several operations of five major mining companies such as Lonmin, Xtrata, Samancor, Anglo Platinum and Aquarius Platinum (*ibid*.).

The municipality of Rustenburg has registered about 4 824 shacks in Nkaneng with the population standing at 15 000 in 2012 but have grown since then. However, local residents believe that the area is bigger than what is recorded by the municipality (Amnesty International, 2006). Nkaneng consists of thousands of shacks mostly built from bits of wood and metal sheets, packed together and surrounded by litter (*ibid*.). The older parts of Nkaneng have water taps which residents share However, residents have stated from time to time that the taps do not function properly. As a consequence the community is left with no choice but to purchase the water from other sources on a daily basis (Amnesty International, 2006).

There appears to be a lack of security in the informal settlements across the Platinum Belt compared to other settlements (Chinguno: 2013:12). The result is the formation of vigilante `law and order' bodies in several informal settlements that are not frequently policed by the South Africa Police Service (Chinguno: *ibid*.). Most of the informal settlements in South Africa have a shortage of local state structures to deal with the issues of crime, maintenance and the monitoring of order but some settlements have police forums and other structures that maintain order.

The Xstrata mineworkers in Thlabane stay in backyards and informal settlements (Rustenburg Community Report: 2011). The workers are said to contribute to social problems and overcrowding in Thlabane. The sewer system is strained due to overcrowding and unmarried men staying in the Thlabane are said to contribute to the increase in the number of taverns and this encourages prostitution (*ibid*.).

However, the physical situations of informal settlements and their position often pose critical threats to their dwellers' welfare (Ehebrecht, 2014: 36). Informal settlements are regarded as the source and cause of informality and illegality, vulnerability and poverty, environmental hazards, social stress and many more (Godehart and Vaughan,2008).

2.10 Characteristics of Informal Settlements

The characteristics of informal settlements have been described by many scholars. Many descriptions more or less point to the same factors. Mohammed and Muhammad (2006: 2) defined informal settlements as residential shacks constructed in “unplanned” and “planned” areas with no formal planning approval. Furthermore, slums and informal settlements are caused by a variety of related aspects, including population growth migration from rural to urban areas, a lack of affordable housing for the poor people in urban area, inadequate governance (especially in the areas of planning, policy, urban and land management, which results in land grabbing and negative rumours). Climate change and natural disasters, marginalization and discrimination, unpaid work and economic vulnerability and dislocation instigates conflict. The main driving force or cause of the mushrooming of informal settlement is the demographic phenomenon of urbanisation (Mohammed and Muhammad, 2006: 2).

In the context of South, Africa Bosman (2014) also defines informal settlements as spontaneous and illegal shantytowns requiring decent infrastructure and services (Bosman: 2014). Further features include the low quality of housing structures and shortage of infrastructure and social services (*ibid.*).

The literature on informal settlements can and does raise sensitivity to the situation. Critical conversation may be misinterpreted either as an attack on the inability of its occupants to live a better life or in their acceptance of poor housing conditions. Informal settlements may be understood as the will of the poor occupants to secure a livelihood under trying circumstances (Ehebrecht, 2014, 35).

With most local municipalities focused on delivering basic services and filling the backlog of basic infrastructure, including houses, as illustrated by the provision of over a million RDP houses, most of the unlawful settlements have still not enjoyed the necessary improvement interventions, either in the arrangement of the massive relocation of informal settlements’ residents, the upgrading of informal settlements’ infrastructure or green fields housing projects focused on informal settlements (Misselhorn, 2008: 3).

Challenges vary from demographic issues, social and cultural relationships environmental health problems, the non-existence of local / informal economy and infrastructural needs with regard to questions of governance. The responsible authorities, i.e., the local municipality, the provincial and national governments, should endeavour to create an enabling environment for all stakeholders to participate and leverage each other's' efforts in order to successfully uplift the lives of the informal settlement dwellers. The relocation of communities should be a last resort for improving informal settlement conditions (Department of Human Settlement 2009: 25).

It is also essential to add that unlawful settlements are products of ineffectiveness or poor planning and governance, inappropriate regulations, corruption, inequitable and dysfunctional land markets, failed policies, exclusionary urban economic development, inequitable financial systems and poor urban management plans (Mears, 2007: 2; Huchzermeyer and Karam 2006:43). While informal settlements are likely to be very complex and vary in their structure, size, formation phase, the availability of social facilities, population composition, legal status and various other features, the residents in informal settlements, however, are often well located with regard to access to transportation, economic opportunities and social facilities such as health facilities and public schools (Ehebrecht, 2014,36).

According to the Rustenburg Community Report (2011), informal settlements present a disturbing situation that points to the undermining of human rights and dignity as a result of the absence of or the fact of very poor service delivery in areas such as water provision, sanitation and waste collection. An informal settlement does not offer employment conditions for all, especially young women searching for ever elusive jobs in the mines away from home. They may end up in prostitution (Rustenburg Community Report 2011).

2.11 Land Invasions by Informal Settlements

The land invasion control and management of informal settlements is supported and grounded by the provision of the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act (Act 19 of 1998) and Extension of Tenure Security Act (Act 62 of 1997). Land invasion can be defined as the unlawful occupation of settlement

of any land, or occupation of inhabitants on land without the landowner's tacit or express permission of the landlord or the lack of any other legal right to inhabit or settle on land (Mogale City : 2010).

Two groups with dissimilar motivations invaded the Mandela informal settlement at Botleng, Delmas in Mpumalanga province. The first group to invade the land was African National Congress (ANC) activists as a method of protest against the local authority. The other group was established by single individuals and youthful families who had been tenants in backyards and shacks in the township who were frustrated by the landlords' attitudes and a break-down in their relationships (Rubin and Royston: 2008). However, individuals numbering between 2 000and 2 500 or 480 households are residing in the municipality owned buffer strip (*ibid*.). However, the municipality decided to relocate the community to the new two sites within the jurisdiction of the municipality (*ibid*.). The Prevention of Illegal Eviction Act (19 of 1998) advocates for the prevention of unlawful removals, makes provision for procedures for the eviction of illegal dweller and repeals the 1951 Act of Prevention of illegal Squatting and other laws.

The landmark ruling of the High Court in the Grootboom case was about children's' right to housing. It also ruled that provisional housing be delivered to about 900 inhabitants as well as children (Huchzermeyer : 2004). However, because of disagreement with the ruling on the basis that this would deplete the inadequate resources for the delivery of housing, the provincial and local governments appealed to the Constitutional Court (*ibid*.). The court ruled that the state housing programme should not only make provision for medium to long term housing delivery but also should take into consideration the immediate needs of this particular community and resolve its administration crisis (*ibid*.).

In desperation to satisfy the demand for informal housing, landlords and miners may be attracted to invade land regardless of ownership. The Government has taken steps to ensure that this does not happen. A clear understanding of the afore-mentioned issues is important in providing the context and content of issues and constraints with regard to informal settlements around mines.

Essentially, a municipality must act within a period of 24 hours after it has become aware of the invasion of land or the establishment of a new informal settlement. Regardless of whether such settlement was established as a result of a land invasion incident or not, a municipality must take the following three steps: The first is to begin with the process of determining the status of the informal settlement as an unrecognised or recognised informal settlement. Secondly, the municipality must notify the community of the informal settlement's status as an unlawful occupation in accordance with the procedure pertaining to the management and monitoring of its informal settlement. Thirdly, the municipality must give notice of the intention to terminate an unlawful informal settlement (Mangaung Metro Municipality: 2013).

After these notices, the process of removing land invaders may be protracted, with the municipality, mining unions, political parties and the aggrieved land owner taking part in the procedures.

2.12 Upgrading Informal Settlements

Through a number of important declarations, UN-Habitat has kept the world focused on informal settlement planning amongst other global settlement challenges. Good governments all over the world have followed the advice from the world body with different levels of success.

In 1996 the Gauteng Provincial Government pronounced an informal settlement upgrading programme through the provision of capital subsidies to housing projects located in informal settlement (Huchzermeyer: 2003). In 2004 the National Housing Code developed incremental intervention to informal settlement upgrading and in that sense adheres with the UN Habitat programme such as the Habitat Agenda (1996), the 1996, Istanbul Declaration on Cities and other Human Settlements, and the Vancouver Declaration of Human Settlements (1976), the intention of is to discourse the difficulty of people deprived of acceptable housing (Department of Human Settlement: 2009).

As already mentioned, in 2004 South Africa developed the a reliable subsidy mechanism for Informal Settlement Upgrading Programme as a part of a modification of the National Housing Policy through sustainable human settlement known as

Breaking New Ground (BNG): In addition an all-inclusive Plan for the Development of Sustainable Human Settlement (Huchzermeyer: 2006:42) was developed. The introduction of BNG pleaded for a paradigm shift in relation to intervention in informal settlements (*ibid*.). The conventional *in situ* upgrading of informal settlement requires the revitalisation of an informal settlement in a comparatively and comprehensive broad approach in relation to tenure, infrastructure and housing (Misselhorn: 2008:11).

The Upgrading Informal Settlement Programme (UISP) was planned to support informal settlements' *in situ* upgrading (Department of Human Settlement, 2009). The objective of UISP was to eradicate the informal settlements by 2014 (Ziblim: 2013). Part of the eradication of informal settlements may include the possible resettlement and relocation of inhabitants in such a voluntary and cooperative way as may be found suitable but which must be seen as a last resort (Department of Human settlement, 2009).

Ziblim (2013) refers two main approaches to the upgrading of informal settlement: an *in situ* upgrading approach' and the second being a redevelopment approach. The *in situ* upgrading requires developing the present informal settlement by progressively extending infrastructure, land ownership rights and basic services like sanitation, electricity and water (*ibid*.) to residents. The redevelopment approach is a condition where the present informal dwellings are destroyed and its residents relocated to appropriate greenfield situations somewhere else, usually at the urban edges (*ibid*.).

In situ upgrading of informal settlements is technically the opposite of the relocation of informal settlement' inhabitants to greenfields. All that the relocation would wish to achieve in terms of economic opportunities, safety and health, tenure upgrading and the empowerment of the people of informal settlements via participatory processes are attained through minimal micro-site planning (Ziblim 2013).

Misselhorn (2008:10) emphasised the characteristics of an *in situ* upgrading approach as consisting of the following: Firstly, it requires the effort to retain as many dwellers in the area of an informal settlement as possible and to eliminate any relocations. Secondly, it entails broad and regular stimulation of community involvement with local inhabitants if *in situ* upgrading is to succeed. Thirdly, it must

be recognised as a time consuming process and may take up to seven and 12 years or even more from conception to the end. These time periods are based on past experiences. Fourthly, upgrading has turned out to be progressively more challenging with the t passage of time as an effect of continuing densification of settlements, the insufficiency of alternative land, increasing frustration on the part of planners and the residents and the politicisation of the situation.

The UISP emphasises that the radical and direct method for the eradication of informal settlements, which usually characterised by the enforced relocation of informal settlements' residents, is likely to only provide temporary and short lived results. This contributes to the long term dangers inherent in informal settlement (Ziblim, 2013). It directly does away with informal settlements; but such settlements regularly are reinvaded.

The following is a brief examination of the second UISP approach, i.e., the relocation process or approach. In the situation of relocation the consent of the inhabitants to move must be obtained and the demarcated sites must be in the area selected in accordance with the approved municipal Integrated Development Plan (IDP), (Department of Human Settlement, 2009).

In the real world, relocation can be complicated. For example, only a portion of the settlement may be affected by relocation or it could be the whole settlement, and relocation may be to temporary relocation sites or to alternative greenfields. The provisional relocation of part of the settlement might be unavoidable, while permanent relocations of specific residents may also be unavoidable. Often there are few options to choose from. However, the relocation of the whole settlement to more poorly located land in relation to economic opportunity and social facilities should be taken only as a last option (*ibid*.). Relocations can result in harmful impacts on the people (Misselhorn, 2008:12).

Franklin (2011) and Ziblim (2013) advise against the relocation approach from informal settlement to greenfields. They base this on the negative impacts on the economic opportunities and fragile community network that are broken up. Ziblim (2013) emphasises that the National Housing Code provides that the implementation

of informal settlement relocation should be based on the code of the least possible disturbance in cases where relocation appears inventible.

2.13 Mining Unions and the Accommodation of Miners

Mining Unions were weak during the apartheid era. However, unions have found space in the democratic dispensation in post-1994 South Africa. As a matter of fact, unions have been in partnership with the governing political party, the ANC, and this has bestowed immense powers to unions. Thus the National Union of Mineworker (NUM), and lately the Solidarity Union, have effectively pushed for not only improved remuneration but better working conditions as well. In this section the focus is on mine unions and the accommodation for mineworkers.

The living out allowance (LOA) was established to offer mine employees the choice of not residing in hostels (Amnesty International: 2016), as already noted above. While the LOA had noble intentions, this section analyses the LOA and the consequences of the LOA for mineworkers and the rise of unintended social issues. The literature also shows the amount of LOA offered by different mining companies and companies contracted to mining industries, for example Lonmin mine and the Northern Platinum Mine, which is based in Northam.

2.13.1 The Marikana Incident in 2012 and Living Out Allowances

The issues that brought about the Marikana Incident in 2012 have been extensively covered. According to Bench Marks Foundation (2016), 34 men were killed by the South African Police Service in Marikana on 16 August 2012. One of the contributing factors for the protest was the unbearable housing situation and living conditions of mineworkers alongside intra-mining union conflicts at Marikana.

Lonmin highlights that the LOA is paid as an alternative to company accommodation but that workers divert the stipend to other uses and the result is that the mineworkers end up living in informal settlements (Chinguno 2013: 10). The closeness of informal dwellings to mining industries means that mine employees can walk to their places of employment (Buhlungu 2008:9). However, to qualify for this allowance an employee has to prove to have accommodation outside company

housing, usually through a letter from the landlord and certified by a commissioner of oaths (*ibid.*).

According to the Bench Marks Foundation (2016), the mining industry in Marikana offers a LOA ranging from R800 to R1 800 for companies contracted to mining industries. The main problem at the Marikana mines is the construction mining companies' employees who do not have accommodation for their workers due to irregular movement from one place to another (the Bench Marks Foundation: 2011).

When it comes to renting accommodation, Lonmin mineworkers who receive a living out allowance have few choices because of the shortage of housing near mining operations (Amnesty International:2016). Records on the condition of housing in Rustenburg municipality where operations of Lonmin are situated indicate a shortage of housing, related to demand, of more than 58 000 units *(ibid.*). Chinguno (2013:08) shows that more than 350 000 people are living around and on leased mining land, extending to more than 30 square km. Lonmin recognises local traditional leaders as one of the stakeholders (Chinguno: 2013:8). Lonmin mines are situated in the area of a traditional community known as Bapo ba Mogale (Bench Marks Foundation: 2016).

Nine villages, suburbs, hostels and eleven informal settlements have been established on licenced Lonmin owned land (*ibid.*). Chinguno (2013:8) stress that mining setups have transformed Marikana's settlement geography by separating local people in villages from migrant employees in informal settlements.

Operations of Lonmin mines extend into the adjacent Madibeng municipality where 33% of homes are in informal settlements (*ibid.*). Lonmin knows about the problem of housing shortages in the area and is also aware of their workers' living conditions with the inadequate access to basic services such as water, electricity, sanitation etc. (Bench Marks Foundation : 2016).

2.14 The Presidential Intervention for Sustainable Mining Towns of 2012.

The Department of Human Settlements in the Select Working group presentation on the Revitalisation of the Distressed Mining Towns Programme of 2015, stressed that

mining towns are composed of a large number of informal settlements that were regularly situated on private or tribal land (Tshangana: 2015).

As already noted above, numerous mine industries have reached consensus with unions to pay a LOA and the Department of Human Settlements states this is by and large not used for decent housing, which has led to more mineworkers residing in poor physical situations in informal dwellings. There is also concern about the high levels of indebtedness among miners (*ibid.*).

Reference was made to the overall objective of the Revitalisation of Mining Towns Programme intervention as the “transformation of mining towns through the creation of sustainable human settlements” (Tshangana: 2015).

As noted above, Tshangana (2015) reveal that informal settlement upgrading processes are typically multi-year projects. The challenge is in the need to accommodate a diverse range of residents in the mining towns in which require a diverse range of housing options/solutions (upgrading of informal settlements, hostel upgrade, private rental/ownership, social housing, and partially and fully subsidised housing) (*ibid.*).

In 2012, an Inter-Ministerial Working Group for the Revitalisation of Distressed Mining Communities was formed to discuss the Social Accord Part 3: The mining district and their areas of labour sourcing areas as well as social problems were discussed by the Committee.. The IMC has focused on the following. Firstly, the Department of Human Settlement steered integrated and sustainable human settlements, (assisted by its agencies, e.g. NHFC, HDA, SHRA, NURCHA). Secondly, enhanced socio-economic conditions , led by Departments of: Rural Development and Land Reform, Cooperative Governance and Traditional Affairs (assisted by the Departments of: Trade and Industry, Economic Development, the National Treasury, and DBSA, SALGA, IDC and MISA). Thirdly, improved working conditions of mineworkers steered by the Department of Labour. Lastly, decent living conditions for mineworkers and involvement with the development path of mine towns and labour sending areas steered by the Department of Mineral Resources (Tshangana: 2015).

In October 2012 President Jacob Zuma signed a Social Accord (not confined to the mining industry) with Government, Business and Labour, known as the Special Presidential Package (SPP), which contained a number of promises. Mining was part of the Accord, addressing socio-economic challenges in partnership with the Government, Labour and Business, i.e., the South African Mining Development Association and the Chamber of Mines as the main stakeholders (*ibid*.).

In five provinces 15 mining areas and their connected labour sending areas were selected for the revitalisation of distressed mining communities(*ibid*.).

2.15 Redesign and Upgrading of Informal Settlements

As noted by the president's intervention for sustainable mining towns, re-blocking of the informal settlement is a vital component of *in situ* upgrading of informal settlements in mining areas. Reblocking is defined as a process in which a community reconfigures the existing informal settlement layout by grouping physical structures into clusters and restructuring the ground plan in such a way as to optimally make use of space to enhance the safety, health, and security of households, with a specific focus on enhancing accelerated delivery of services to informal settlement (City of Cape Town: 2013). Informal settlements are reblocked to make space for the municipality to provide basic services, tenure, fire protection and to make provision for access to emergency services during disaster (Sokupa :2012)

Reblocking can also be understood to be the moving of shacks to enable a more practical layout to enhance living conditions, to make provision for municipal services, modify movement routes and to enhance spaces for community services (Pinfold: 2015). Reblocking is not the initiation of the formal *in situ* upgrading of the informal settlement either by the municipality or by the inhabitants through the National Upgrade Support Programme (NUSP) or any other national housing programme (City of Cape Town: 2013). Instead, reblocking is an instrument used to help the inhabitants gain an understanding of their own resources and capacity for enhancing their living condition and it also empowers communities to negotiate for themselves (Pinfold: 2015).

2.16 Accommodating Emergency Services in Re-designs

The National Housing Code (2009) makes provision for funding for permanent and temporary municipal engineering services in informal settlement upgrading. However, where temporary amenities are to be installed it must be embarked upon on the basis that such temporary amenities create the main part of the provision of permanent amenities in the informal settlement (Department of Human Settlement: 2009)

However, prior to the establishment of a permanent answer for informal dwellings, the settlement must be provided with emergency services, regardless of its position (Huchzermeyer *et al.*: 2004). According to National Housing Policy and Subsidy Programme (2010), it may be essential throughout the process of informal settlement upgrading to rehouse residents in the interim while services are being connected or the construction of houses are in process on sites previously occupied by illegal structures.

Huchzermeyer *et al.* (2004) emphasise an instance of the legal incident of the 2004 Modderklip area in Daveyton in 2003. In 2004 the area was supplied with emergency services even though the settlement was located on privately owned land. However, the Integrated Development Plan (IDP) of Ekurhuleni Metropolitan Municipality by then budgeted for water and sanitation in order to provide these basic services to entirely informal dwellings on a permanent or temporary basis pending relocation or upgrading of the informal settlements *(ibid.*). They further emphasise that where the informal settlement was situated on unsafe land, for example high risk dolomite, the inhabitants should be relocated to a greenfield site.

2.17 Securing Tenure in Informal Settlements

Lamba (2005) pronounces the land tenure system to be contractual legal or cultural measures whereby a group of people or individuals secure rights to social or economic opportunities. Royston (2013) defines land security and tenure as the point of assurance that the user of land will not be estranged from the privileges they already have on the economic and land benefits that arise from it; the absolute certainty that dwellers' rights with regard to land will be protected and acknowledged

by others; the right of entire groups and dwellers to actual state protection against enforced removals. Smit and Abrahams (2010) argue that security of tenure have the following benefits:

- It provides more protection for land investment
- It creates a source against which the dwellers can raise loan finance.
- It supports the authorised presence of formerly unrecognised informal dwellings
- It promotes the delivery of basic municipal basic amenities
- It creates an operative cadastral system for revenue collection and is as a result central to creating sustainable models of service delivery.
- It makes provision for extensive protection against immediate eviction.

Misselhorn (2008) argues that arrangements of tenure in informal settlement are frequently well developed and operate well in practice. However, the local residents' committees in the informal settlements classically control tenure arrangements (*ibid.*). The community of the Spring Valley informal settlement in Emalahleni (Witbank) has taken several steps that have assisted in fighting this phenomenon and enhanced its tenure security through demands for greater administrative recognition (Urbanlandmark:2013). Lamba (2005) mentions that securing land tenure refers to a reassurance that land users or dwellers will progress to inhabit the land and gain from the resource of the land without the risk or threat of spontaneous eviction and that they can only be removed by means of a recognised and arranged lawful process which must be equally applicable, objective, independent and contestable.

The official transfer of land to the beneficiaries or dwellers through the issuing of title deeds is a very significant step (City of Joburg: 2006). This provides dwellers with a sense of ownership and stability (*ibid.*). Furthermore, the issuing of title deeds acquires dwellers' self-interest in the process of continuous development of the settlement, and they feel liable for maintaining the internal growth of settlements (*ibid.*).

2.18 Conclusion

From the discussion of mineworkers and mine housing in the first part of the chapter it is apparent that the migrant system emerged as a solution to labour shortages in South Africa in what became the so-called 'circular migration system.

The second part of the chapter on legislation, regulations and protocols on housing in the Constitution of South Africa's (1996) Bill of Rights states that everybody has a right to access to suitable housing. The Mining Charter is a state instrument planned to effect the meaningful transformation and sustainable development of the mining industry and the MPRDA (2002) advocates on the standard of the South Africa mining sector's living conditions and housing (Department Minerals: 2009; Department of Minerals: 2010).

The LOA was established to offer mineworkers the choice of not living in hostels. The mineworkers in Smashblock will be questioned about their approaches to the LOA. The research will also address the important motives of mineworkers for residing in the informal settlement.

The third part of the chapter on informal settlements and the various responses to informal settlements are likely to be very complex and to vary in their structure, size, formation phase, availability of social facilities, population composition, legal status and other features, (Ehebrecht, 2014: 36). However, the residents in informal settlements are often well located with regard to access to transportation, economic opportunities and social facilities such as health facilities and public schools (*ibid*.). The land invasion control and management of informal settlement is supported and grounded by the provision of the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act (Act 19 of 1998) and Extension of Tenure Security Act (Act 62 of 1997)

The reblocking of Smashblock will be considered and addressed in the research. However, before permanent answers can be established for an informal settlement, the settlement must be provided with emergency services, regardless of its position (Huchzermeyer *et al*: 2004). The securing of a land tenure information system is addressed in this research.

CHAPTER 3: RESEARCH METHODS

3.1 An Introduction

Jennifer and Averill (2013) have argued that qualitative methods in research are reliable and useful to the extent that they help to represent what is happening in the community, among participants and a group as related or interpreted by the respondents themselves. This outlines the specific methods used in this research. It looks at the research strategy, the description of the research approach, data analysis, collection of data, limitations of the research methods and ethical considerations of the research.

3.2 Research Approach

The research uses a qualitative research method. This will be based mainly on the information received from the participants through direct observation of Smashblock informal settlement, focus groups and interviews, supplemented by a document review. Creswell (2014) argues that a qualitative research method is a method for exploring and understanding the significance groups or individuals consign to societal or human problems. According to Creswell (2009), the qualitative approach must contain the processes of (1) collecting, (2) analysing, (3) interpreting and (4) writing the outcome of the study.

The research also used statistical and other information such as existing research on informal settlements, Statistics South Africa data and housing policies. The qualitative research approach or method assists in gaining detailed information from the participants or respondents who are living in Smashblock informal settlement, mining companies, Thabazimbi local municipality, ward councillor, mine employees, government officials and others.

3.3 Data collection

The major data collection method used in this research entailed interviews and focus groups. Jennifer and Averill (2013) explain that qualitative researchers go to the study area not as experts with solutions but as good listeners or observers with

cultural or social humility, with open minds and more questions than answers. I visited the Smashblock informal settlement five times in the course of the study. I met with Thabazimbi municipal officials, government officials, community leaders and Amandabelt mines officials before I started with the interviews. Once agreement for each interview was reached, we agreed on the date and time for an interview.

The research sampling was based on open-ended interviews with the wider community related to Smashblock informal settlement. Discussions were conducted with 14 residents who are living in Smashblock informal settlement as well as with Three community leaders, i.e., the ward councillor, one civic organisation leader, a religious group leader, two Thabazimbi municipal officials, three mine employees, one mine union representative, and one official from the provincial government.

The Waterberg district municipality is also represented by myself as the manager of development planning responsible for the informal settlements in the region. Smashblock informal settlement is one of the informal settlements I am responsible for on a day to day basis as manager. My position gave me some insight into the conditions in the area as well as access to interviews with various officials from the Thabazimbi local municipality, mining industries and provincial government departments. However, I need to recognise that there were some limitations for this research associated with my position. The limitations were based on the fact that with me working for the district municipality some subjects did not feel free to talk to me because of the position I held in government as they thought that I was representing government and therefore they did not want to give vent to their opinions.

3.4 The Limitations of research methods

The research recognised and acknowledged the limitations of the data collection approach as used in the research. The focus group interview and interview participants were selected by the local councillor. The councillor was my key contact and access point into the community. It is significant to add that the councillor is the only person I know in the area as I serve with him in the Waterberg District Municipality Planning and Economic Development Portfolio. Therefore the arrangement was made with the councillor to conduct focus group interviews. The

councillor organised different structures in the area including the mining union representative, community members, community leaders, mining employees and other people to come together for group discussions. The advantage of this contact through the ward councillor was that he knows the area, he is the elected representative, he represents the community in the municipality both locally and at district level and he formally works at the mine. The disadvantage might have been that he selected people to participate according to what he knows about their views of the area and that he might have avoided including certain people from other political organisations than his own.

The following are some of the limitations of this research:

- Data: The research focuses on the appropriate management strategy for informal settlements. Some people, especially mining officials, municipal officials and provincial government officials were unable to reveal enough information about Smashblock.
- Language: Interview questions were written in English. However I clarified the meaning of all interview questions in the local languages of Sepedi, Tswana, Tsonga and Xhosa. The participants spoke Sepedi during the discussions.
- Focus Group: The group of people to interview were identified by the local councillor who belongs to a particular political organisation. My view is that other people from different organisations may not have been identified to form part of the focus group. However, the participants I interviewed in the focus group discussions spoke about the entire community and not about their individual experiences.

3.5 Ethical considerations

The issues of ethics are very important in this research. Consent to conduct this study was obtained from Thabazimbi local municipality, Waterberg District municipality and the Limpopo Provincial Department of Cooperative Governance, Human Settlement and Traditional Affairs through verbal consent.

All the respondents participated during the interview session and expressed their views of challenges relating to Smashblock. However, interview questionnaires were prepared in English, explaining the exact meaning of the questionnaire of Sepedi and Tswana so that the respondents would understand. Therefore, the respondents answered questions in Xhosa, Tswana, Sotho Tsonga and Sepedi. The advantage of the respondents is that all understand Sepedi and Tswana. Verbal consent was also granted from the respondents to take photos of the group and the entire area.

3.6 Selection of Participants

The first focus group of people to be interviewed was selected by the local councillor and the second focus group interview was done through public notice. The local councillor did not select municipal officials, mining housing officials and the provincial government official who are all key informants external to the settlement. The mining official, municipal officials, government officials and HDA were separate from other people. Table 1 below shows the participants interviewed through focus group discussion and interviews with officials.

The purpose of the interview was to obtain enough information from the participants. However, it had to be done in such a way that they felt free to respond to each and every interview question. My aim was to get enough information about the challenges experienced at Smashblock informal settlement. All the focus group participants reside in Smashblock, including the Mining employees, the pastor from the Dutch Reformed Church, ward councillor, ward committee secretary, mine union representative, and other community members. All the participants agreed to have their names used in this research.

Table 1: Participants selected

Interviews	Date	Place	Participants	Time
First focus group	28-01-2017	Smashblock	Four residents, mine union member, Councillor, Church leader, ward community secretary (civic leader), three mineworkers	10h00 to 14h30
Second focus group	17-02-2017	Smashblock	Ten residents	13h00 to 16h20
Interview 1	30-01-2017	Thabazimbi	Town Planner (Tshepo Makutu) Thabazimbi Local Municipality	09h30 to 10h05
Interview 2	30-01-2017	Thabazimbi	Manager Spatial Planning (Piet Van Rensburg) Thabazimbi Local Municipality	10H15 to 11:00
Interview 3	02-02-2017	Amandabelt Mine offices Northam	Director Housing (Jack Lesetsa) Amandabelt Anglo Platinum mine	09h30 to 10h15
Interview 4	03-02-2017	Polokwane	Director Spatial Planning and Human Settlement (Robert Mulatedzi Dali) Limpopo Cooperative Governance Human Settlement Traditional Affairs (COGHSTA)	10h00 – 10h50

Interview 5	16-02-2017	Telephone Interview	Madonsela, Thado Housing Development Agency Official 16-02-2017	12:30 - 13H10
Interview 5	16-02-2017	Telephone Interview	Sithagu, Taki Wits TUB Project Coordinator and Lecturer, formerly working with NUSP	16h00-16h45
			The total number of the participants is 27	

Source: Author

3.7 Data analysis

In this research the data that was analysed included my observations of the settlement, the focus group discussion material, the interviews and the background documents. With the permission of focus group participants the researcher took pictures and notes during the meeting with the participants. The participants expressed their views on challenges and understandings about Smashblock.

The decision to study Smashblock is because I am the Manager Spatial Planning: Waterberg District Municipality and have been in this position for a period of nine years. Smashblock informal settlement is one of the unattended informal settlements in the country. Provincial government attempted to upgrade the informal settlement several times without success. The Thabazimbi municipality and Waterberg District municipality never attempted to upgrade the informal settlement due to the challenges in the informal settlement. I researched the area in order to come up with more informed recommendations. However, even though the positive side of the

study is that I have knowledge of the area, this also might have restricted people from speaking freely because I am employed by the district municipality.

3.8 Conclusion

The chapter outlined the research methods used in this research report. The method is centred on collecting data from a range of sources, including from the participants in the focus group through direct observation of Smashblock informal settlement, four key informant interviews and a review of background documents. For the first focus group I worked through the local councillor who selected different people from the community and mining companies, an approach which had some advantages and disadvantages, which I recognise. For the second focus group I placed the notice on the site with the venue and date of the meeting, More than 30 people came for the focus group discussion. However, the participants themselves selected only ten people who eventually participated. This was done in order to have a clear and successful discussion.

CHAPTER 4: THE NATURE OF SMASHBLOCK INFORMAL SETTLEMENT

4.1 An Overview

The chapter outlines the nature of Smashblock informal settlement. It seeks to understand the location, physical land characteristics and surrounding land uses, land ownership and tenure, demographics, infrastructure services, facilities and transport, housing conditions and economic activities.

4.2 Location, physical and characteristics and surrounding land uses

4.2.1 Location

Smashblock is an informal settlement located in the rural mining areas of Thabazimbi. Smashblock began as a small informal settlement in the pre1994 era. Smashblock is located in close proximity to Amandelbult Mining settlement and is surrounded by mining industries.

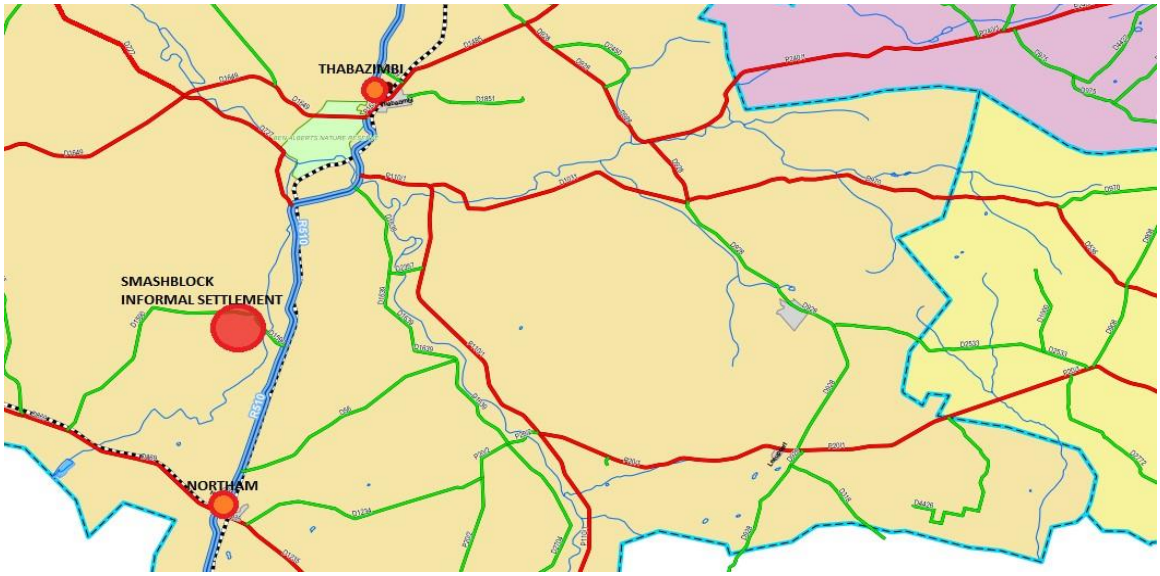
The nearest town is Northam, which is about 20km away and the closest major town is Thabazimbi, which is 23km away. The nearest city is Pretoria at a distance of 138km. Smashblock was started in the early 1980s by the chrome mineworkers and farm workers (Mamayile. pers.com. 2017). The Smashblock informal settlement is the biggest informal settlement in Limpopo Province with more than 9 636 people.

Smashblock is located on the portion 1of the farm Schilpadnest 385 KQ and portion 19 and portion 28 of the farm Zwartkop 369 KQ, Thabazimbi Local Municipality, Limpopo Province. Smashblock is situated towards the south eastern part of the farm Zwartkop 369 KQ and north eastern part of the farm Schilpadnest 385 KQ. The area is located between Northam and Thabazimbi Towns, surrounded by several mines. The total area of the settlement measures +- 236ha. The area is situated within the following coordinates: Latitude: 24 47’18.30” South, Longitude 27 17’18.24” East.

An area of around 134ha of the settlement is situated on portions 19 and 28 of the farm Zwartkop 369 KQ, whereas the remaining 98ha of the settlement is situated on portion 1of the farm Schilpadnest 385 KQ. Smashblock is surrounded by mines and

the area has serious challenges with regard to accessing basic services, housing and employment. The locality map and image below indicates the Smashblock informal settlement.

Map 1: Map showing the Location of Smashblock



Source: Waterberg SDF Maps 2014

Image 1: Showing the Location of Smashblock



Source: STATS SA GIS (2017)

4.2.2 Surrounding Land uses

Smashblock informal settlement is surrounded by the mining industries and agricultural land uses. Chinguno (2008) stresses that the platinum mining industries in South Africa are mostly located in the Northwest Bushveld Complex which contributes 80% of the world reserves. The Smashblock area is also located in the Limpopo Bushveld Complex between the borders of Limpopo and North West. The Marikana settlement in North West is surrounded by platinum mining industries such as Aquarius Platinum, Lonmin and Anglo Platinum (Amnesty International: 2016).The Platinum Group Metals (PGM) is primarily focused on the local mining sector. Roughly 95% of the local settlement labour is involved in mining related activity. However, mineral deposits' influence has determined the macro spatial patterns in terms of the location of mining activities within the area. In addition to that, the Thabazimbi municipality has essential mineral zones and this has influenced the informal settlements' development in and around the corridors of mining operations. Andulusite Mine and Amandabelt Tumelo and Dishaba Mines are mining companies that recently began operations within the radius of Smashblock informal settlement. The following are mines surround Smashblock:

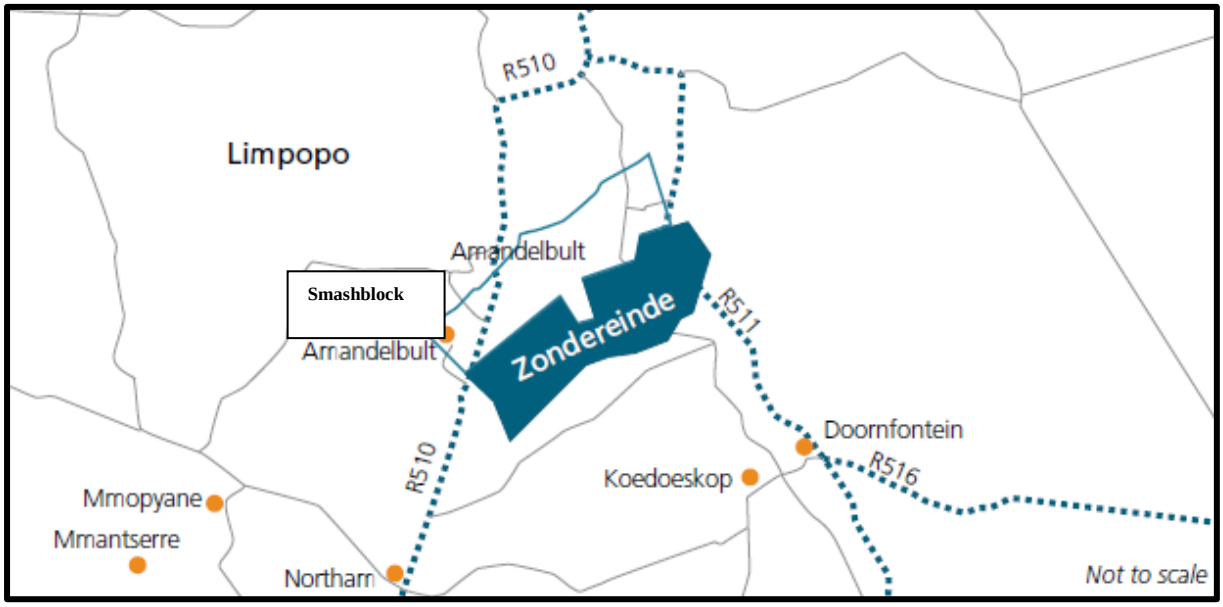
a) Amandabelt Mines

In 2009 the Amandabelt mine split into two mines, after Anglo Platinum separated Amandabelt mine into 2 mines which are known as Amandabelt Tumelo Mine and Amandabelt Dishaba Mine (Amandabelt Tumelo Mine:2017) . The Anglo American group, largest producer of platinum in South Africa, owned 100 % of the Amandabelt Mine. Tumelo Mine is located very close to Smashblock informal settlement and Dishaba Mine is located not far from Smashblock. A total area of 111km² is covered by Amandabelt Tumelo Mine whereas Amandabelt Dishaba Mine covers 31km² of a total area (Amandabelt Tumelo Mine: 2017). The life span of the Amandabelt Tumelo mine is estimated to go beyond 2091 whereas Amandabelt Dishaba Mine's life expectancy is up to 2058 (*ibid.*).

Both mines are situated very close to the inhabitants of Smashblock informal settlement and the community is benefiting from Amandabelt mines through social labour plans.

b) Northam Platinum Limited

The Northam Platinum Limited is known as Zondereinde Mine. Zondereinde Mine is located close to Amandabelt Tumela mine, situated between the road R510 and R 511 in Thabazimbi, Limpopo province. The mine covers a total area of 7 625 hectares with reserves of 11.7 Moz and Resources of 84.1 Moz (Thabazimbi IDP: 2016). The life span of Zondereinde Mine is 30 years (*ibid.*). The location of Northam Platinum Limited Zondereinde Mine is shown on Map 2. The Zondereinde Mine being located close to Smashblock informal settlement, the community of Smashblock are benefiting through the Social Labour Plans (SLP).



Map 2: The location of Northam Platinum Limited Zondereinde Mine

Source: Northam Platinum limited (2017)

c) Thaba Cronimet Mine

The Thaba Cronimet Mine known as Cronimet Chrome Mining (CCM) is situated in Thabazimbi very close to Smashblock informal settlement. The mine is located about 30km south-west of Thabazimbi town and 18km north of Northam. Access to the mine is by way of a gravel road which connects the R510 from Thabazimbi to Northam as indicated on the map above. The life span of the mine is approximately 20 years (Thabazimbi IDP: 2016).

4.2.3 Land Characteristics of Smashblock

Part of the land in Smashblock is located within a 100 year flood-line and some part of the land cannot be developed due to a shaft under the settlement as well as dolomite (Dali, pers.com.2017). However, the majority of the residents are living in low lying terrains along stream banks and others in quarried surfaces, susceptible to both flooding and ponding.

4.3 Land Ownership and Tenure

The Housing code (2009) describes security of tenure as a way of improving the residency concept; integrating both rights and obligations, through recognising and formalising the ownership rights of the informal settlement residents. In addition, Thabazimbi municipality by nature of it being at the coalface of service delivery, in tandem with the provincial and national governments, should try to remove all potential problems that might hamper rightful access to land for its residents.

However, in order to enable security of tenure and access to land for all socio-economic groups within Smashblock, it is important to look at the land ownership status of the area. Royston (2013) defines land security and tenure as the point of assurance that the user of land would not be estranged of the privileges they enjoy with regard to the economic and land welfare benefits that arise from it; the reassurance that dwellers' privileges to land will be protected and acknowledged by others; the safeguarding of entire groups and dwellers through actual state protection against enforced removals. According to the deeds register, Zwartkop 369 KQ is subdivided into several portions whereby the Smashblock informal settlement were registered under private land owners. Zwartkop 369 KQ is registered under the mining prospecting permit to different mining companies.

However, CCM has mining rights that cut through a number of parcels of land, including Schilpadnest 385 KQ. According to the Makutu (Pers.Com.,2017), the Land Claims Commission confirms that the Sebilong Community Property Association and Baphalane BA Mantserre Community Development Trust have formally lodged a claim on the Smashblock informal settlement. However, the claims of Baphalane BA Mantserre Community Development Trust and Sebilong Community Property

Association have been settled by the Department of Rural Development and Land Reform (DRDLR). Smashblock informal settlement now belongs to the residents of Smashblock. A community trust represents the community of Smashblock (Makutu, pers.com. 2017)

According to the deeds register, the Schilpadnest 385 KQ portions of the farm affected by Smashblock is registered under the Baphalane BA Mantserre Community Development Trust under the title deeds T69837/2004 and T150265/2003 with total extent of 428.266 HA (Makutu, Pers.com., 2017).

According to Councillor Mapaole (Pers.Com.,2017), Anglo platinum promised the residents to build 8 000 housing units in the area if the area is upgraded or formalised or a partial relocation process take place in order to enhance the living condition of the residents of Smashblock. Therefore there is no proper security of tenure in the area. People are worried about their possible eviction from the land owned by the community trust due to part of the settlement being affected by dolomite and the 1:100 flood line.

Focus Group 1 (2017) reveals that residents are looking forward to the upgrading of the Smashblock informal settlement in order to secure tenure rights. They also said that President Jacob Zuma promised them in 2009 that the area would be upgraded. They have been waiting ever since for the upgrading process in order to secure tenure rights on their properties (*ibid*). **4.4 Demography**

4.4.1 Place of Origin

Mapaole (Pers.com. 2017) is of the view that most of the people in Smashblock are from the Eastern Cape (Xhosa speaking people). However, Census (2001 and 2011) shows that the dominant people are from Limpopo, followed by the Eastern Cape. In addition, most of the people interviewed in Smashblock are from the Eastern Cape and Limpopo. Table 2 below indicates the place of origin per province. The population in table 2 below shows that the number of people residing in Smashblock is decreasing. Mapaole (Pers.com. 2017) indicates that mining industries retrenched mineworkers in 2013 and 2015 due to the economic state of the country. This may be one of the factors for people moving out of the Smashblock. Census statistics

show that the population in 2001 was 12 681 and in 2011 was down to 9 636. This shows that more than 3 000 people are no longer staying in Smashblock.

Van Rensburg, (Pers.Com.,2017) stresses that although the mineworkers may be staying in Smashblock, they have, however, two homes. Every month they visit their original or family home or send money back home. He indicates that the population in Smashblock is not a permanent population because when the mines retrench workers they move back home. In addition, the people in Smashblock move constantly and it is not easy to come up with the correct population statistics.

Table 2: Place of Origin per province of the Population in Smashblock

Province	2001	2011
Eastern Cape	1 622	2 739
Free State	71	125
Gauteng	172	124
KwaZulu-Natal	104	199
Limpopo	10 226	4 974
Mpumalanga	89	157
Northern Cape	8	41
North West	336	256
Western Cape	23	14
Unspecified/Other	29	1 008
Total	**12 681**	**9 636**

Source: STATS SA (Census 2001/2011)

4.4.2 Dominant Language

According to census (2001 and 2011), the dominant language in Smashblock is isiXhosa. The table below indicates the dominant language in Smashblock. Chinguno (2013) cites that the dominant language in Nkaneng informal settlement located on Lonmin mining area is isiXhosa and Sesotho languages. This shows that the Xhosa language dominates in mining settlements.

Table 3: Language groups in Smashblock as Per Stats SA Census.

Language	2001	2011
Afrikaans	21	36
English	11	144
Ndebele	22	44
Sepedi	693	422
Sesotho	1 257	824
Siswati	509	240
Tsonga	1 540	1 767
Tswana	2 170	753
Venda	93	75
Xhosa	6 233	4 920
Zulu	121	201
Other	20	211
Total	**12 690**	**9 637**

Source: STATS SA (Census 2001/2011)

4.4.3 Income levels

Census (2001 and 2011) illustrates that most of the people in Smashblock are earning less than R1 200 per month. During the focus group discussions most of the people indicated that there is high levels of unemployment and that they depend on temporary jobs with mining contractors. Census 2001 and 2011 show the income levels as a true reflection of the situation in Smashblock. The table below indicates the income levels in Smashblock.

Table 4: Income levels in Smashblock

Income group (Rands)	2001	2011
<1200	2 149	1 188
1 200 – 2 000	566	181
2 000 – 5 000	760	622

5000 – 10 000	1 482	967
10 000 – 20 000	310	193
20 000 – 50 000	70	18
>50 000	0	8
Total	**5 338**	**3 173**

Source: STATS SA (Census 2001/2011)

4.4.4 Levels of Education

People who are not attending school decreased in 2011 compared to 2001. There is an improvement in the number of people attending school in Smashblock. The number of matriculants has increased from 613 in 2001 to 1 448 in 2011. The table below indicates the level of education in Smashblock.

Table 5: Level of education in Smashblock

	2001	2011
Under 5	1 830	948
No school	2 866	769
Primary	4 232	2 662
Secondary	3 034	3 755
Matric	613	1 448
Post matric	71	44
Graduate	4	2
Post-graduate	3	5
Other	26	2
Total	12 680	9 635

Source: STATS SA (Census 2001/2011)

4.4.5 The Profile of the Residents

Two focus group interviews were undertaken for this research. The first focus group discussion was composed of the following residents and all the participants agreed to have their names used:

Mr. **Dirang Monemodi** is a male and elected community leader as the secretary of the ward committee. He is 34 years old, originating from Zeerust, North West Province. He decided to move to Smashblock to look for work in 2006. He stays in his own shack with his wife and two children. He speaks Setswana, Sepedi, isiXhosa and English, his original language is Setswana. He has been searching for permanent employment for the past 10 years but he used to get temporary jobs from the surrounding mining contractors. He left his parents and other siblings at home. Mr Monemodi reveals that he depends on temporary jobs for a living and he also acts as volunteer worker for one of the political organisations.

Mr. **Steve Moloto** is a male who has been working for Anglo Platinum mine (Tumelo Amandabelt Shaft) for a period of seven years. He originated from Burgersfort, Limpopo Province. He speaks Sepedi and English. He has been renting in Smashblock for the past seven years. He left his family back home and occasionally travels to Burgersfort at month's end to see his family. He is 52 years old and is planning to work on the mine until retirement and after retirement he will settle in Burgersfort with his wife.

Mr. **Refiloe Manpaole** is a male and elected full time councillor of Thabazimbi local municipality and Waterberg district municipality. He is 35, worked for Anglo Platinum mine (Tumelo Amandabelt Shaft) for a period of nine years and after the 2016 local elections he resigned and now works as a full time ward councillor. He originated from Modjadji, Limpopo province and is staying in his own house with his family. He left his parents back home. He visited home during the festive season and if there are crises like funerals and other matters. He is earning an income from the Thabazimbi local municipality. He began staying in Smashblock in 2007. His original language is Sepedi but he can also speak isiXhosa, English and Setswana.

Mr. **Gabriel Thamage** is a male working at Northam Platinum Limited, known as Zondereinde Mine, as Administrative Clerk and also is a political organisation volunteer. He hails from the Free State province. He began staying in Smashblock in 2000. His original language is Sesotho but he can speak English and Setswana. He has been staying in his own shack for the past 15 years and before that he was renting. He left his family back home but he is always visiting home, especially at month's end, or once every two months. He left his wife and children at home in the Free State.

A Lesotho resident is a female who has been staying at Smashblock for the past 29 years without an ID. She is originally from Lesotho. However, she has been staying in Smashblock even before the establishment of Mines. She is currently unemployed but she used to get temporary jobs from the game farms and agricultural farms around Smashblock. She now calls Smashblock home. She last visited Lesotho 17 years ago. She is 54 years old and stays with her children.

Mr. **Norman Mavabasa** is a male, unemployed person who depends on temporary jobs with mine contractors. He started staying in Smashblock in 2000. He stays in his own shack. He originated from Malamulele in Limpopo province. He left his family back home in Malamulele. He visits home once or twice per year and it depends on the jobs he can generate. He is 38 years old. His original language is Tsonga but he can speak Sepedi.

Ms. **Shaleng Selepe** is a Female. She originated from Bolebedu in Limpopo province. Her original language is Sepedi but she can speak Setswana and isiXhosa. She is unemployed, depending on her husband who is working at a mine. She is a local church member of the Dutch Reformed Church. She is staying with her children. However, she left other members of her family back home. She visited home only in the festive season or if there are other important family engagements. She is 25 - years old. She started staying in Smashblock in 2014.

During the interview the respondent revealed the challenges about living in Smashblock and also gave her views about poor basic service delivery by the Thabazimbi local municipality.

Mr. **Stanford Marumo** is a male and originated from Burgersfort, Limpopo province. He is unemployed and is seeking for employment around the mines. He started staying in Smashblock in 2004. However, he is always finding temporary jobs around Smashblock informal settlement. His wife is a nurse at the hospital. He depends on his wife. He is renting a room in Smashblock. He visited home at month's end. He is 47 years of age. He left his children at home in Burgersfort.

Mr. **Kgomosto Ramatsea** is a male who originated from the Free State. He is working at CCM mine as mineworker and is a union leader. He started staying in Smashblock in 2014. He is 38 years old. He left his family back in the Free State. He is renting a room in Smashblock. He visited home every month.

Mr. **Victor Makhushe** is a male who originated from Pongola in Kwazulu Natal. He is a saloon business owner. He depends on the saloon for an income. He is 38years old. He left family back in Pongola. He is renting a room in Smashblock. He visited home once or twice a year.

Mr. **Jonannes Thulare** is a male employed by the mining contractor known as Ingwe, working at Amandabelt mines. He began working at Ingwe in 1994. He is 47 years old and originated from Ha-Hlongoane in Limpopo Province. He has stayed in his shack in Smashblock for the past 23 years. He left his children and wife back home. He visted home every month.

Image 1: Smashblock First Focus Group Interview



Source: Author's own, 2017

The second focus group discussion comprised of the following residents:

Mr **Thanduxolo Nqeketo** originated from the Eastern Cape Province in Umtata and speaks isiXhosa. He is 55 years old and began living in Smashblock in 2015. He was employed in Tumela mine as contractor for 2 years, now he depends on temporary jobs for a living. He left his family in Umtata and is living alone, renting a shack in Smashblock. He visited home only in festive seasons, depending on the temporary jobs he gets.

Ms. **Mkansi Mamayile** originated from Tzaneen, Limpopo Province and is a Tsonga speaker. She is 61 years old and began living in Smashblock in 1984. She is a pensioner and used to work on the farms around Smashblock. She is staying with her four children, two of whom are unemployed. The other two are working at Dishaba and Tumelo mines as contractor workers. She is staying in her own yard. She last visited home in 2011.

Ms. **Boniswa Somdaka** originates from the Eastern Cape and speaks isiXhosa. She is 58 years old and began living in Smashblock in 1994. She is living with her husband who retired from Tumelo mine. She has three children, two of whom are studying and one who is unemployed. She is staying in her own yard with her family. She last visited home in 2009.

Ms. **Magret Shiluvha** originated from Bushbuckridge in Mpumalanga, and is a Seswati speaker. She is a pensioner, 62years old and began living in Smashblock in 1997. She used to work at Dishaba mine as a contractor worker. She is staying with two children and another three children are living at Bushbuckridge Mpumalanga. She is staying in her own yard with her family. She visited home once every two months.

Mr. **Sinegugu Ziba** originates from Lusikisiki, Eastern Cape Province and speaks isiXhosa. He is 20 years old and began living in Smashblock in 2011. He completed matric in 2015 in Northam comprehensive high school. Due to financial problems he did not continue with tertiary studies. He lives with his brother who is working at Northam Platinum Mine. He left his parents in Lusikisiki and stays in his brother's shack in Smashblock. He visited home only in festive seasons.

Mr. **Mohlomi Retsilisitse** originated from Mount Frere in the Eastern Cape and speaks Sesotho. He is 40 years old and began living in Smashblock in 2006. He has been employed at Tumela mine as contractor for two years. He is staying with the family in his yard. He visited his parent back home only in once or twice a year.

Mr. **Dumisa Makhabeni** originated from Ngqaleni in the Eastern Cape, and speaks isiXhosa. He is 32 years old and began living in Smashblock in 2013. He lives in his own shack and his parents pay rent to him and groceries every month. He is searching for employment around mining areas in Smashblock. He visited home only in festive holiday seasons.

Ms. **Sindiswa Nzimanade** originated from Bushbuckridge in Mpumalanga and speaks siSwati. She is a pensioner, 64 years old and began living in Smashblock in 1994. She used to work at Dishaba mine as a contractor worker. She is staying with three children and two other children are living at Bushbuckridge in Mpumalanga. She is staying in her own yard with her family. She visited home every month.

Ms. **Maria Khoza** originated from Bombela in Mpumalanga and speaks Seswati. She is 54 years old and began living in Smashblock in 1994. She is unemployed and depends on temporary jobs around Smashblock. She is staying with three children in her own yard and two other children are staying in Bombela. She visited home once every three months.

Mr. **Mcebisi Mphikeleli** originated from Lebode, Eastern Cape Province and speaks isiXhosa. He is 28 years of age and began living in Smashblock in 2012. He is renting a room and stays alone. He visited home every month to see his family.

Image 2: Smashblock second Focus Group Interview



Source: Author's own, 2017

4.5 Infrastructure and Services

Informal mining settlements like all informal dwellings are characterised mainly by low quality housing structures and poor or absolute shortage of infrastructure and basic services (Bosman: 2014). The Millennium Development Goals of 2000 reveal that countries should halve the number of people without access to safe sanitation and drinkable water by 2015 (MDG: 2017). The residents of Smashblock has not had access to basic services ever since its establishment (Focus Group 1:2017).

4.5.1 Water

There are four boreholes within the area, some of which are occasionally working due to the pumping systems that are not well serviced. Recently, water supply was obtained from the two functional boreholes supplied by mines which are linked to the tanks within Smashblock. Image 2 below shows the borehole water project of CCM. The project included the drilling of 160 meter boreholes, erecting two 5 000L tanks and equipping the tanks with pumps, generators, water lines and tank stands (Focus Group 1:2017). The maintenance of water facilities has been undertaken occasionally by CCM (*ibid.*). However, Focus Group 2 (2017) indicates that each and every household pays R10 per week for the diesel in order to pump water by generator from the boreholes.

Image 3: CCM borehole water project



Source: Author' own, 2017

However, they also buy water from suppliers who received water from the farms. The community buys 25L of water at R4, the suppliers use donkey carts to fetch water (Focus Group 2:2017). Image 4 below shows donkey carts selling water to the community of Smashblock informal settlement. A municipal truck also supplies water three days per month for existing toilets, but no potable water for the community (Focus Group 2: 2017)

Image 4: Donkey carts supply water to community



Source: Author's own, 2017

It is important to add that Thabazimbi local municipality and the Waterberg district municipality are not supplying bulk water to Smashblock informal settlement. The Constitution of South Africa's Bill of Rights (1996) reveals that everyone has the right to enough potable water.

4.5.2 Sanitation

With regard to sanitation, there are no waterborne facilities in the area. There are a number of basic pit latrines and therefore the boreholes are exposed to the risk of faecal contamination. Most of the residents built pit latrines toilets, situated on the corner of their stands. Anglo Platinum supplies the community with mobile toilets, using septic tanks (Focus Group 1: 2017). The mobile toilets are not working well due to A shortage of water in the area (*ibid*.). When waste are not collected the inhabitants suffer from the unpleasant odours which cause diseases in the area (Focus Group 1: 2017). Smashblock needs a sustainable waterborne sewer collection system as a long term solution to the lack of service provision. In Smashblock sewerage collection and disposal is the responsibility of the Thabazimbi local municipality. However, Anglo platinum is fulfilling that role in Smashblock informal settlement (*ibid*.).

4.5.3 Electricity

There are electricity lines in the area. However there are no house connections within Smashblock. Though electricity does not have the same effects on health as sanitation and water have, access to electricity is very crucial for overall development and specifically for education (Gildenhuys: 2017). The electricity line in the area is connected to street lighting and the clinic. According to Census 2011, 99.69 % of Smashblock residents do not have access to electricity. Inhabitants use candles, lantern lights, generators and solar power for lighting and other uses. They also depend on paraffin stove and gas stoves as well as firewood for cooking.

4.5.4 Roads and storm water

The major road to Smashblock is gravel and connects to the R511 from Thabazimbi to Northam. The area is located 4km west of the R511. The access and internal streets are in bad condition due to a lack of maintenance by the local authority, causing a severe dust problem. There is a need to improve the access roads and streets to prevent dust, erosion and improve the life of infrastructure. There is no proper storm water management in Smashblock and this results in a threat with regard to continued soil erosion, especially after heavy rainfalls.

4.5.6 Solid Waste

There is no authorised dumping site and waste collection in the area. Gildenhuys (2017) stresses that refuse removal and solid waste management are significant for environmental considerations and public health. The solid waste produced in Smashblock is mainly domestic or general waste. General waste does not pose a major threat to the public health of environment if properly managed. An example of domestic waste produced in Smashblock is bottles, card board, paper, plastics etc.

Residents dig holes and dispose waste into the domestic pits on a daily basis until they are full and then close them (Focus Group 1:2017). They also use a burning method in which waste such as paper, plastics and boxes are burnt at their homes. In addition, there are several illegal dumping sites in Smashblock due to a lack of waste collection by the Thabazimbi local municipality (*ibid*.). There is also a small scale mining company in the area which mines chrome and this mine dumps the mining waste in Smashblock informal settlement (Focus Group 1 and Focus Group 2:2017). The residents complain about the waste dumping by the mine.

4.6 Facilities and Transport

4.6.1 Schools and Attendance

There is one primary school in Smashblock catering for children from grade 1 to grade 7. The primary school is built with bricks and mortar. The primary school was built by Chronimet mining company as a social labour project for community. There is no high school in Smashblock but students travelled 20km to Northam by bus to attend high school. The mining company organises buses for high school learners to

Northam. There are three preschools or crèches in Smashblock that caters for children below the age of five years. These preschools or crèches are run by Non-Governmental Organisations (NGOs) and individuals. They are as follows: Eyethu day care centre, Kgotso preschool and Kgatelo Pele daycare centre. Image 2 below shows the educational facilities in Smashblock.

Image 5: Smashblock Primary School and a day care centre



Source: Source: Author's own, 2017

4.6.2 Social Facilities

There are three unplanned soccer grounds in the area where people gather during weekends for soccer matches. About 20 beer halls or taverns were spotted around the area and the use or abuse of the alcohol is quite evident in the area (Focus Group 2:2017). In addition, there is no police station, public library, community hall or other such social facilities. The residents want satellite police station, community hall and library in the area (Focus Group 2: 2017). A cemetery is situated within Smashblock and was named after Chief JK Ramokoka. It is used mainly by people staying in the area. According to focus Group 2 (2017), there are approximately 50 religious sites in the area with the structures varying from brick and mortar to shack materials. The denominations range as wide as the structures on site, but with a strong bias to African Zionist church worship (Focus Group 2:2017). The places of worship are mainly used on Sundays (*ibid*.).

4.6.3 Health Facilities

There is a clinic in the area erected by the Limpopo Department of Health. According to Focus Group 1(2017), the clinic operates between 8h00 to 17h00. The residents use Northam health care after hours and the Thabazimbi hospital which they pay for transport (*ibid.*). The residents want the clinic to operate 24 hours per day in order to avoid the costs of travelling to Thabazimbi and Northam. The South Africa Constitution (1996) determined that everybody has the right to healthcare facilities as well as proactive health care

4.6.4 Bus and Taxi Services

The most used public transport in the area are taxis which accommodate 15 passengers each in what is commonly known as the fifteen seater taxis (Focus Group 1:2017). These taxis ferry people within the mining area, and also to the nearest towns like Northam, Thabazimbi and Rustenburg (*ibid.*). Long distance travellers use big buses like the Vaal Maseru bus which normally travels at month's end (Focus Group 2:2017). The buses are also used to ferry passengers from neighbouring countries like Lesotho (*ibid.).* The image below illustrates a 15 passenger taxi in Smashblock.

Image 6: Fifteen passenger taxi in Smashblock



Source: Source: Author's own, 2017

4.6.5. Housing Conditions

The demand for housing and the housing backlog in Smashblock informal settlement remain a major problem for the Thabazimbi municipality as well as the Provincial and National governments. According to census 2001 and 2011, the table below indicates the dwelling types in Smashblock informal settlement. Table 6 below show the increase of houses made of bricks and the decrease in informal dwellings. This shows that people are developing the area by building more permanent houses with bricks.

Table 2: Dwelling Types of Smashblock informal settlement

Dwelling Types	2001	2011
Traditional	552	221
Houses made of Bricks	94	542
Flats	11	17

Multiple housing	3	23
Dwelling in backyards	13	19
Rooms/Granny Flats	44	1
Informal Housing or Shacks	2723	1275
Informal dwelling or Shacks in backyards	1842	1053
Other	61	21
Total	5 342	3171

Source: STATS SA (Census 2001/2011)

Section 152 of the Republic of South Africa Constitution Act No. 108 assures that the municipality promotes a healthy and safe environment for communities. In addition, section 26 further states that everybody has the right to access to suitable housing.

According to StepSA (2016), the main pull factor to informal settlement in mining towns is the need for jobs. Most of the interviewed participants were unemployed when they came to Smashblock, seeking employment. Some are staying in their own shacks and some are staying with their relatives and partners (Focus Groups 1 and 2: 2017).

StepSA (2016) stress that the loss of employment in Lemenong in the Marikana area implies that people cannot afford rental accommodation in the accessible formal housing. This causes overcrowding in backyard accommodation and informal settlement. The same situation also applies to Smashblock where people lost their jobs in the mining sector due to retrenchment and they end up living in Smashblock informal settlement; some then end up going back home (Focus Groups 1 and 2: 2017).

Informal mining settlements like all informal dwellings are characterised mainly by low quality housing structures and the poor or absolute shortage of infrastructure and basic services (Bosman: 2014). In the case of Smashblock, there are areas where there are proper brick housing structures and most of areas are characterised by informal housing structures, i.e., shacks built of plastics and corrugated iron.

Smashblock informal mining settlement like all other informal settlements are characterised mainly by low quality housing structures and the poor or absolute shortage of infrastructure and basic services (Bosman: 2014)

Image 7: Types of Housing in Smashblock informal settlement



Source: Author's own 2017

The living conditions of the Smashblock residents are very bad due to a shortage of the most basic services in the area (Focus Groups 1 and 2: 2017). However, the mineworkers received LOAs from their respective mines. Most of the mineworkers are renting in Smashblock, with some having their own shack or house (Focus Groups 1 and 2: 2017).

Letsetsa (Pers.com. 2017) stresses that the mining companies provide LOAs for workers who reside outside the mining hostels and mining villages. The mining companies offer accommodation for mineworkers but the workers prefer LOAs in order to stay outside the mining settlement. The aim of LOAs was to give mineworkers an additional choice of residence and to support rental payment and board in settlements that are not necessarily bound directly to mining company operations (Amnesty International: 2016).

Letsetsa (Pers.com.2017) indicates that the workers intend to stay in Smashblock in order to utilise LOAs for other purposes. He further emphasised that Anglo Platinum offers R1 900 as LOAs (*ibid.*). Northern Platinum Mine, which is based in Northam and Thabazimbi very close to Smashblock, offer mineworkers 9% of their wages for LOAs, which is R3 000 per month (Northern Platinum Mine: 2016). Letsetsa (Pers.com.2017) further emphasises that other workers receiving LOAs are renting in Northam town and Thabazimbi and some have bonded houses and use mining buses to get to work.

Chinguno (2013) states that some of the mineworkers in Nkaneng informal settlement in Marikana moved into the informal settlement in order to save on rent and increase their salaries by R1 850 of LOAs a month. The cost of renting a shack is R300 while a single room, sharing, in a hostel costs R720 whereas renting a brick room cost R600 per month in Smashblock informal settlement (*ibid.*).

Letsetsa, (Pers.com.2017) emphasised that the housing conditions in Smashblock is very bad for workers. However, they live in the settlement in order to save up the LOAs. He also understands that the main cause of Smashblock being established is the establishment of mining industries in the area.

4.6.6 Economic Activities

The residents are mainly involved in informal trading as a main economic activity in Smashblock informal settlement. Most of the Small Medium Micro Enterprises (SMMEs) are situated along the major taxi street known as Mamba Street within Smashblock. Mamba Street is the prime economic centre within Smashblock. There are about 90 SMMEs ranging from hair salons to supermarkets or spaza shops (Mapaole pers.com. 2017). The majority of the businesses are taverns, spaza shops and clothing shops. There is a business forum which regulates the business affairs in the area. It is important to add that 95% of jobs in Smashblock are created by mining industries while game farming and agriculture industries in the area also contribute to job creation. The nearest major business centre is at Northam and Thabazimbi.

Image 8: Indicating the businesses in Mamba Street, Smashblock



Source: Author's own 2017

4.7 Conclusion

The Chapter presented the nature of the Smashblock informal settlement. The emphasis has been to contribute a background for a reflection on the appropriate management or intervention strategy of Smashblock informal settlement, taking into account the location, physical characteristics and surrounding land uses, land ownership and tenure, population and demography, infrastructure and services, facilities and transport, housing conditions of residents and economic activities in the area. It has been shown that mining activities contribute 95% of jobs within the Smashblock. The shortage of infrastructure and basic services is a major problem and housing conditions is characterised by mixed type housing while the access to security and land tenure is still a major problem due to land ownership in the area. The next chapter will focus on the governance, management and planning for Smashblock.

CHAPTER 5: GOVERNANCE, MANAGEMENTAND PLANNING SMASHBLOCK

5.1 An Overview

Future plans for Smashblock will take into consideration residents' vision for future growth, re-blocking and *in situ* upgrading of the settlement, the Limpopo Department of Cooperative, mining industries operating close to Smashblock and the municipality plans.

5.2 Governance or Management of Smashblock

Smashblock informal settlement is managed by the municipal ward committee (Focus Groups 1 and 2:2017). The focus groups (2017) state that the main person responsible for managing Smashblock is the municipal ward councillor and the ward committee. SALGA (2011) states the role of a ward committee to be an advisor to the ward councillor on policy issues affecting the ward; detecting challenges and needs facing residents; receiving complaints from the community regarding municipal service delivery and liaising with regard to information to the ward on IDP, budget and service delivery plans.

The role of the ward councillor is to serve as liaison between community and council (SALGA: 2011). The role of the Smashblock councillor is to liaise with the municipality regarding the needs and challenges faced by the residents (Manpaole, pers.Com.2017). Van Rensburg (Pers.Com. 2017) emphasises that Smashblock informal settlement is managed by the municipality because it is situated within the jurisdiction of Thabazimbi local authority. Therefore, all the municipal basic infrastructure services should be provided by the municipality, while and the electricity line across the settlement falls under the purview of Eskom. In addition, the councillor together with the ward committee also plays a role in the development and management of Smashblock in terms of the registration of business and allocation of stands within the area.

According to Manpaole (Pers.com. 2017), they allocate a stand to a person who has a record of more than five years continuous living in Smashblock. In addition, the ward committee has a record of all the people who are allocated stands in

Smashblock and a waiting list of the people who are looking for a stand in the area (*ibid.*). My observation is that the ward committee is demarcating stands towards the eastern side of Smashblock close to the Tumelo mining shaft. In this way Thabazimbi local municipality manages Smashblock through the ward councillor and ward committee.

Smashblock residents have trust in the leadership elected in 2016 (Focus Groups 1 and 2:2017). The ward committee under the leadership of the ward councillor and the secretary of the ward committee and all the committee members run the Smashblock informal settlement (*ibid.*).

The residents say that the Smashblock committee manages several issues, including the delivery of basic services to the residents by the municipality and mining industries. They also control the development of Smashblock in terms of the demarcation of sites, business development, maintenance and upgrading of infrastructure services, working with the police forum for the prevention of crime in the area, registration of new and old stands and other issues (Focus Group 1: 2017). Focus Groups 1 and 2 (2017) stated that the municipality is not cooperating well with the residents. In addition, residents said that the mining industries have many projects to implement in Smashblock but that various projects were not being implemented (*ibid.*).

5.3 Plans for Smashblock Informal Settlements

Focus Groups 1 and 2 (2017) revealed that residents have their own future plan for Smashblock but that they don't have it on paper. In terms of the growth of the settlement, the area will expand towards the eastern side, very close to Tumelo Shaft Amandabelt mine, where the ward committee is demarcating new stands for the residents of Smashblock. The respondents were optimistic that working with the new leadership elected in 2016 will bring *in situ* upgrading to the area in order to achieve their goals.

The residents emphasise that the upgrading of the informal settlement is the main issue as well as the provision of basic services such as water, electricity, roads, sanitation, removal of waste and the provision of RDP houses and security of tenure

(Focus Group 1: 2017). Misselhorn (2008: 3) emphasises that with most local municipalities focusing on delivering basic services and filling the backlog of basic infrastructure, including houses, as illustrated by the provision of over a million RDP houses, afterwards most of the illegal settlements still do not have seen the necessary improvement interventions, either in the arrangement of the relocation of informal settlement residents, infrastructure upgrading of informal settlements or greenfield housing projects focused on informal settlements..

The current leadership is making progress with the engagement process with regard to the *in situ* upgrading of the informal settlement with the municipality, government and mining industries (Manpaole, pers.com.2017). The main priorities of the residents are the informal settlement upgrading and securing tenure (*ibid*.). The redevelopment approach is a situation where the current informal dwelling is destroyed and its residents relocated to an appropriate greenfield somewhere else. In urban areas this is usually at the urban edges (Ziblim, 2013). Therefore, the Smashblock residents want the *in situ* upgrading approach whereas the municipality and other stakeholders recommend the relocation of the entire settlement to Northam.

The residents of Smashblock will also consider the reblocking of the settlement in order to have a proper layout for the settlement (Focus Group 2:2017). Reblocking can also be understood as the moving of shacks to enable a more practical layout to enhance living conditions, make provision for municipal services, modify movement routes and to improve spaces for community services (Pinfold: 2015). Reblocking is not the initiation of the formal *in situ* upgrading of the informal settlement either by municipality or by the residents through the National Upgrade Support Programme (NUSP) or any other national housing programme (City of Cape Town: 2013).

Focus Groups 1 and 2 (2017) state that they are seeking assistance through the municipality, government and mines to undertake the reblocking of Smashblock informal settlement. The residents do not care about the land invasion of the newly demarcated Smashblock (Focus Groups 1 and 2: 2017). However, Mogale City (2010) Land invasion can be defined as the unlawful occupation or settlement of any

land, or occupation of inhabitants of land without the landowner's or landlord's tacit or express permission or the lack of any other legal right to inhabit or settle on land.

The PIE Act (19 of 1998) makes provision for the prevention of illegal removal; make provision for processes for eviction of illegal dwellers; and the act repeals the 1951 Act of Prevention of illegal Squatting and other laws.

Manpaole (Pers.com.2017) said that he engaged the municipality through the IDP forums and through Council meetings about the improvement of Smashblock. However, the municipality said that they were still working with the mines and government for a feasibility study of Smashblock in order to resume the planning of Smashblock informal settlement. Manpaole, (pers.com.2017) further said that as resident he understood the nature of the challenges facing Smashblock.

Focus Groups 1 and 2 (2017) also said that they do not consider the full relocation of the entire Smashblock. However, they will consider *in situ* upgrading of the informal settlement. They prefer the *in situ* upgrading of Smashblock informal settlement process and not the relocation of the entire settlement. The participants understand upgrading as redesigning the layout, relocating a few people and the provision of basic services to the residents. As revealed by the municipality, certain portions in Smashblock has dolomite. Focus Groups 1 and 2 (2017) know about the dolomite in the area. However, they said the government built the clinic and recommend a primary school in areas where they said there is dolomite. They said it was impossible for them to be relocated while the government invested in the clinic and school in areas where they said there is dolomite.

According to Dali (Pers.com.,2017), the municipality together with COGHSTA and Anglo Platinum appointed a service provider to develop a feasibility study of Smashblock informal settlement. The recommendation of the study is that the relocation of the entire settlement should undertaken. Anglo Platinum agreed in principle with the municipality to donate the land for relocation, which is situated 10km away from Smashblock, very close to Northam town. The reason for relocation is that some part of the settlement is located within the100 year flood-line and because some part of land cannot be developed due to a shaft under the settlement and dolomite.

Dali (Pers.com.,2017) stated that Anglo American promised to donate land for relocating the entire Smashblock informal settlement. However, Anglo Platinum is very quiet about the process of donating land.

Van Rensburg (Pers.com.,2017) emphasised that the municipality together with Anglo Platinum, CCM, Northern Platinum, Waterberg district municipality and COGHSTA had plans to relocate the entire Smashblock to the land which is in the process of being donated to the municipality by Anglo Platinum. The land is located close to Northam where there are infrastructure services except for the provision of a sewerage system (*ibid*.). He proposed that Anglo Platinum and Northern Platinum provide funding for the new sewer development plan in Northam in order to accommodate the proposed relocation of the entire Smashblock informal settlement (Van Rensburg, pers . com 2017). He stated that the municipality, together with other stakeholder, are planning 6 000 units for the relocation process (*ibid*.). Relocations can result in harmful impacts on the people (Misselhorn, 2008:12). Van Rensburg (Pers. Com (2017) indicated that the recommendation of the relocation of Smashblock was based on the feasibility study conducted in the area (*ibid*.).

Van Rensburg (Pers.com.,2017) said that the main causes of the growth of Smashblock is the establishment of mines in the area. According to him, the mining industries provide workers with the living out allowance but workers prefer to stay in the informal settlement in order to use money for other purposes. He further indicated that the municipality, with the assistance of the Housing Development Agency (HDA) and other stakeholders do have a relocation plan.

In addition, the HDA earmarked and gave numbers for all the houses and shacks for the relocation process (Van Rensburg, pers .com 2017). He emphasised that the Director Planning and Economic Development, Ms. Molatelo Mabitsela, should address the residents on possible relocation for the part of the settlement under 1:100 floodline as well as settlement on the dolomite. At the time the previous leadership agreed with the municipality on the relocation (*ibid.).* However, the municipality is waiting for the implementation of the Operation Phakisa programme announced by the RSA's President in 2012. Northam town was identified as part of the Operation Phakisa small mining town development programme.

Van Rensburg (Pers.com. 2017) indicated that the Thabazimbi municipality was bankrupt: they could not afford the relocation process. The only way to relocate is to wait for Operation Phakisa and Anglo Platinum. He indicated that the municipality do not have enough budgetary leeway to improve Smashblock informal settlement. Moreover, he emphasised that the area is informal at the moment and therefore the municipality cannot provide formal services in the area. As a result the municipality cannot make provision for a bulk service infrastructure budget for the area (*ibid*.).

In terms of the maintenance of existing infrastructure, Van Rensburg (Pers.Com. 2017) stated that the clinic was built by the Limpopo provincial department of Health without planning with the municipality. Therefore the maintenance of the clinic is being done by the department and the same applies to the existing school: the maintenance of infrastructure is done by the department of education and CCM. Van Rensburg, (Pers. com.,2017) stressed that the municipality provided basic services such as water in the area. They erected two boreholes in the area which are not currently working and they supply water three times a week to the area. However the community denies that there is a supply of water three times a week (Group Focus 2: 2017). Van Rensburg said the municipality does not collect waste in the area and they do not supply electricity. However, they occasionally maintain the major roads and streets in the area.

Van Rensburg (Pers.com. 2017) also pointed out that the municipality knew about the new mines coming to the area. The municipality received several applications for prospecting mining rights and mining licence applications surrounding Smashblock and also from a group of companies that want to erect a smelting plant in the area (*ibid*.). He reasoned d that while the housing condition in the area was bad, it was still better when compared to other informal settlements (*ibid*.).

According to Van Rensburg (Pers.com. 2017) the Thabazimbi municipality and the Waterberg District municipality do not have enough capacity to deal with the issues of informal settlement policies and guidelines. Both the municipalities use spatial planners to deal with the issue of housing and informal settlements.

Lesetsa (Pers.com.2017) confirmed the role of the mining companies in Smashblock and the relocation plan of Smashblock informal settlement as recommended by the

Smashblock feasibility study. He also confirmed the donation by Anglo Platinum of 41 HA of land for the relocation of the entire Smashblock informal settlement to form part of Northam mining town (*ibid*.). The discussion was still in process with all stakeholders (the residents, Thabazimbi municipality, Waterberg District Municipality, COGSHTA, CCM, Anglo platinum and Northern Platinum) to sign a Memorandum of Understanding (MOU). However the relocation plan of the residents of Smashblock is hinders by the MOU (Lesetsa pers.com 2017).

Van Rensburg (Pers.com.2017) said the policies that could assist in improving the future outlook for Smashblock Informal Settlement are as follows: The Smashblock Feasibility Study, the Thabazimbi housing development strategy, The National Housing Code 2009, The BNG and Informal Settlement Upgrading Programme. The National Housing Code which developed incremental intervention procedures for informal settlement upgrading and adheres with UN Habitat programmes such as the Habitat Agenda (1996), the 1996 Istanbul Declaration on Cities and other Human Settlements, as well as the Vancouver Declaration of Human Settlements (1976), The aim of all these intervention programmes, principles and international agreements is to address the difficulties people without acceptable housing face (Department of Human Settlement: 2009).

CHAPTER 6: ANALYSIS AND CONCLUSION

6.1 An Overview

This research report has explored Smashblock informal settlement with regard to its specific nature and character, the supporting roles of the municipality, sector departments and mining companies or other entities with regard to improvement, relocation and / or upgrading plans, the engagement of the municipality, mining companies and other sector departments regarding the informal settlement as well as an approach to informal settlement improvement and management that are offered through national or local policies This chapter also addresses the research question and sub-questions set out in Chapter One. Where relevant I make reference to Nkaneng informal settlement as described by Chinguno (2013).

6.2. What is the specific nature and character of Smashblock Informal Settlement?

Informal settlements are likely to be very complex and vary in their structure, size, formation phase, availability of social facilities, population composition, legal status and different other features, (Ehebrecht, 2014: 36). The research found that Smashblock has some characteristics similar to other informal settlements mentioned in the literature. Its features include low quality housing and inadequacy of social and infrastructure amenities for instance water, electricity, sanitation and library, over populated and security of tenure.

However, Smashblock also has some differing characteristics compared to some other informal settlements such as, for instance, the mining industries surrounding the settlement, its primary school, cemetery, size, economic activities and different typology of housing. Smashblock is different to other informal settlements in that it is made up by mixed constructions unlike other informal settlements made almost entirely of shack-like material such as corrugated iron, wood, wattle and daub. According to the Rustenburg Community Report (2011), informal settlements represent the undermining of human rights and dignity as a result of the absence of delivery in areas such as water, electricity, sanitation and waste collection.

With respect to the literature on circular migration, it's hard to position Smashblock as being only made up of circular migrants. It is much more of a mix than this since some people are living in Smashblock permanently. Chinguno (2013) argues that the spatial changes in the geography of the mining settlements is characterised by the proliferation of informal settlements and by the fact that many migrant workers have two families (*ibid*.). One family is where they work and the other family at the place of the original home (ibid). My observation is that most (but not all) of the interviewees have two families, one in Smashblock and another at their place of origin.

According to the National Census, the population of Smashblock decreased from 12 681 people in 2001 to 9 636 in 2011. My observation is that the population has been on the increase again when the current growth of the settlement is taken into consideration. However, the current growth of the settlement may be affected by the part of the settlement affected by dolomite and the flood line.

There are particular elements that one needs to pay attention to in thinking about a management strategy for this settlement. For example, in Smashblock the ward councillor and ward committee manage the informal settlement. By contrast Chinguno (2013) states that Nkaneng informal settlement is situated on the tribal land of Chief Bapo ba Mohale and thus the area is managed by the tribal authority. Therefore a difference between the Nkaneng and Smashblock informal settlements is that Smashblock is situated on land owned by the community trust while the Nkaneng is under the custodianship of the tribal authority and therefore the management principles of the informal settlements differ.

Anglo Platinum makes provision for LOAs for workers who preferred not to be accommodated in mine hostels but decided to live in informal settlements. The mineworkers stay in Smashblock in order to use their LOAs for other purposes.

6.3. What role is played by the municipality, sector departments and mining companies in the improvement and management of Smashblock?

There are a variety of organisations involved in different ways in Smashblock. The Thabazimbi local municipality has erected the two boreholes in the area although at present these are not working due to a lack of maintenance of the boreholes.

Chinguno (2013) emphasises that part of Nkaneng informal settlement in Rustenburg has a water tap which residents share. The residents also reported that from time to time the taps do not work properly. According to Van Rensburg (Pers. Com.,2017), the municipality supplies water to the area three times a week. However, Focus Group 2 (2017) denies that the municipality supply water three days per month. It's hard to get a clear picture of what the situation is but there is no reason to think the residents are misreporting their experiences. It's not clear if some municipal officials are misinformed by the relevant department working on water supply.

The municipality through the ward councillor and the ward committee manage Smashblock informal settlement. The Department of Education together with the CCM mining company erected the primary school in the area. The Department of Education provides the school with the resources. In addition, Anglo Platinum provides free transport to Northam for high school students in the area. The mining companies also erected two bore holes and supply the community with mobile toilets using septic tanks (Focus Group 1 and 2: 2015). The Department of Health erected the clinic in the area which serves the entire settlement. The maintenance of the clinic is done by the Limpopo Department of Health.

6.4. Do the municipality or other entities have improvement, relocation and / or upgrading plans in place?

Dali (Pers. Com.2017, said that the municipality together with COGHSTA and Anglo Platinum appointed a service provider to develop a feasibility study of Smashblock informal settlement. The recommendation of the study is the relocation of the entire settlement to land donated by Anglo Platinum 10km away from Smashblock and very close to Northam town. According to the feasibility study, the area is the closest area or land for housing development, most of the surrounding areas are owned by mines and are not developable due to mine shafts. The reasons for relocation is that some part of the settlement is located within a 100 year flood line; that some part of land cannot developed due to mine shafts under the settlement and there is also the presence of dolomite which is considered to make it difficult or dangerous to develop.

Van Rensburg (Pers. Com. 2017) added that Anglo America promised to donate land for the relocation of the entire Smashblock informal settlement. However, Anglo

platinum is very quiet on the process of donating the land (ibid). The relocation approach is a situation where the present informal settlement is destroyed and its residents are moved to an appropriate green field somewhere else, usually at the urban edges (Ziblim: 2013). The municipality and other entities do have a relocation plan for the residents of Smashblock. The residents' visions and plans are for the settlement's *in situ* upgrading and the planning of a new extension for Smashblock.

6.5. Do the residents engage the municipality, mining companies and other sector departments about the informal settlement?

The residents affirm that they engage the municipality through the ward councillor and ward committee meetings, and the ward committee communicate with mining companies regarding the needs and challenges faced by the residents (Manpaole, Pers. com. 2017). In addition, the residents also engage the ward committee through the IDP road show and Imbizos by the local and district mayors (*ibid*.). Manpaole (Pers.com.2017) said that the residents represented by ward committee and ward councillor engage the sector department through the IDP consultative meeting or IDP representative forum. The residents engaged the municipality several times without success. The municipality did not address the challenges experienced by residents, they also keep on promising them better basic services (*ibid.).*

6.6. Does the municipality have an adequate budget to improve infrastructure in the area?

Van Rensburg (Pers. com. (2017) explained that the Thabazimbi municipality do not have an adequate budget to improve the infrastructure in Smashblock. At present the municipality is bankrupt and they cannot afford to improve the infrastructure in any informal settlement within the municipality's jurisdiction (*ibid*.). However, the municipality is waiting for the Operation Phakisa programme announced by the President of the Republic of South Africa in 2014. Sithagu (Per. Com.2017 confirmed that government do not have a budget which allows for improvement and upgrading of all the informal settlements at the same time.

Northam town was identified as part of Operation Phakisa's small mining town development programme. Productivity SA (2017) describe Operation Phakisa as a

Presidential, results-driven project, including the setting of targets and clear planning, continuing the monitoring of advancement and making these outcomes public. According to Van Rensburg (Pers. Com (2017), Operation Phakisa will provide a budget for informal settlement upgrading and / or relocation.

6.7. What approaches to informal settlement improvement and management are offered through national or local policies?

The full informal settlement upgrading and relocation approach will be offered through the National Upgrading Support Programme (NUSP) and other programmes. The National Department of Human Settlements (NDHS) introduced the NUSP to make provision for assistance to municipalities and provinces working in partnership with the informal settlement residents in their efforts to upgrade informal settlements (The HDA: 2017).

Sithagu (Per. Com.2017) explained the different intervention methods of the NUSP in the planning and provision of basic services, security of tenure of the residents, registration of the residents on municipal data bases and emergency housing. Phase two of the NUSP is the construction phase of the housing (*ibid*). The main objective of the NUSP is to support the municipality's capacity for working in partnership with the residents of informal to enhance the quantity and quality of informal settlements' *in situ* upgrading. The aiming is to enhance basic services and infrastructure provision and to provide land tenure for all the informal settlements' residents by 2014 (Cities Alliance: 2017). According to the HDA (2017), NUSP was created to:

- Improve incremental upgrading as a main complementary housing programme consistent with National Housing Code Part 3 (*in situ* where possible);
- Enhance the programmatic method for upgrading and support co-ordination with other partners and sectors;
- Support the governments' qualified experts and capacity to implement community-based incremental upgrading.

Madonsela (Pers.Com.2017) emphasises that the mineworkers earn more than the housing threshold they fall within the housing gap subsidy. The research conducted

by HDA shows that miners cannot afford the Social Housing Programme due to high debts by mineworkers. Madonsela (Pers.Com.2017) reveals that the Community Residential Unit (CRU) will come up with an alternative plan to resolve the mineworkers' housing challenges. The CRU requisite for reasonable rental housing is observed by a large number of people who at present are renting substandard and overcrowded but low-cost accommodation in informal settlements and backyard (Department of Human Settlement: 2010).

Focus Groups 1 and 2 (2017) stated their stand in dealing with the situation is for the upgrading as well as the re-blocking of the informal settlement. The difference between this vision and the municipality and other parties is that the residents want *in situ* upgrading while other parties are considering relocation. An emergency services programme will be needed during the informal settlement upgrading process. It may be essential to provisionally rehouse dwellers while services are being connected or formal housing are being constructed on sites previous occupied by informal houses (Department of Human Settlement: 2010).

The Mining Charter set 2014 as the goal when the conversion of single sex hostels and the delivery of quality houses for mineworkers would be completed (Chinguno 2013: 10). The provision by Anglo Platinum of quality housing for workers and the conversion of sections of the hostels from single sex hostels to family units located in mining areas did not materialise in Smashblock by that date (Lesetsa,Pers.Com:2017). The South African mining sector's Broad-Based Socio-economic Empowerment Charter advocates the transformation of the housing and living conditions of mineworkers by establishing measures for enhancing the housing standards, including the upgrading of mine hostels and the conversion of some units into family units and the upgrading of household tenure alternatives for mineworkers (Western Cape Provincial Government: 2016).

Overall, what the discussion above suggests with regard to an appropriate management strategy for Smashblock is that the following key issues need to be taken into account:

- A weak or under resourced municipality and a large private sector mining company that has some obligation in terms of legislation and regulations for contributing to the development of the area .
- A local community involved in certain aspects of managing the area, including a community structure dealing specific with the needs and challenges of the community.
- The likelihood of future mining growth in the area, which may extend the current expansion of the settlement even farther.
- Contradictions / different perspectives re future plans, e.g., resistance to the idea of relocation.

6.8 Do the mineworkers utilise the LOAs to address their housing challenges?

. The Living out Allowance (LOA) was established to offer mineworkers the choice of not residing in hostels (Amnesty International: 2016). The Mining industries surrounding Smashblock provide LOAs for mining workers who reside outside the mining hostels and formal mining villages (Lesetsa, pers.com: 2017). Most of the mineworkers are renting in areas such as Smashblock and Northam town (*ibid*.). According to Focus Groups 1 and 2 (2017) and Lesetsa (Per. Com. 2017) the mineworkers utilise LOAs for other purposes and intend to remain living in Smashblock informal settlement.

6.9 Recommendations

The research analysis and conclusion shows up the improper management of informal settlement by the municipality in the sense of poor service delivery to the community. The results indicate that the residents want the *in situ* upgrading of Smashblock informal settlement due to social facilities erected in the area that created expectations of permanency. However, the professional feasibility study recommends the relocation of the settlement *en masse* to a position 10km away from Smashblock mainly due to part of the settlement being affected by the 1:100 flood line as well as the positioning of a mine shaft and dolomite substrata. The National Housing Code (2009) states that relocation of inhabitants should be a last resort in

improving informal settlement conditions. Mears *et al.* (2006:43) added that inhabitants in the informal settlements are often well located in terms of the right to use transportation, economic opportunities and social facilities such as a health centre and public school. The results indicate that Smashblock is located close to economic opportunities, which are the surrounding mining activities and social facilities erected by government in the area. The alternative place near Northam has an advantage of being situated next to service lines and a shopping centre but the residents expressed their desire to remain in Smashblock.

Therefore I recommend that part of the settlement which is not affected by dolomites and the 1:100 flood line to be upgraded through the NUSP. In addition, the mining industry must assist the municipality in conjunction with the provincial government with the upgrading of part of the Smashblock informal settlement.

The upgrading of part of Smashblock informal settlement will give residents opportunities to access mining jobs as well as the social facilities erected in the area. The upgrading of Smashblock informal settlement can give the residents security of tenure.

I also recommend the relocation of residents who are staying on the part of settlement affected by the dolomite substrata and 1:100 flood line. The safety of the residents is paramount and therefore the relocation of the residents to Northam must be taken seriously considered. The relocation of residents close to Smashblock is not possible due to the position of a mine shaft and the ownership of land by the mining industry, further investigation needs to be done. Tshikotshi (2009) revealed that informal settlement eradication through relocations abolishes the livelihood strategies of the very same poor people. Therefore relocation processes will result in harmful impacts on the residents of Smashblock informal settlement.

The current expansion of the settlement must be investigated by the municipality. Lastly, the community must establish a new joint forum of all parties where the issue of basic services, longer term upgrades and partial relocation can be discussed.

The management of Smashblock informal settlement needs to be an on-going process prior, during and after upgrading. The management of the settlement needs

to consider how best to deliver basic services and access to facilities at different stages of the upgrading process. This needs to involve the coordination of the different organisations or authorities already involved in Smashblock as well as potential role players such as the provincial and national departments, local authority, district municipality, mining companies, NGOs, government entities (HDA) and other organisations. It is clear that at present there is a lack of sufficient coordination. . The local municipality through the ward councillor must play a role in the coordination of the organisations involved in Smashblock. It is important also to recognise the opportunities for the settlement in having large private sector companies nearby who have a strong interest in the welfare of Smashblock residents because many of them are working for the companies. The mining companies provide LOAs for their workers. However, the workers stay in Smashblock in order to save the LOAs for other purposes. The mining companies have a vital role to play in helping to think through what types of housing is best suited to the lives of Smashblock residents, many of whom are mineworkers with permanent resident status and some of whom are migrants with other homes elsewhere. This suggests that rental accommodation is key to the future in the area and that consideration must be given to what form this could take, and who the suppliers of it will be (including the option of promoting small scale landlords for providing rooms for rent). In addition, the mining companies must also assist the local authority and other authorities in supporting and contributing to the upgrading of Smashblock informal settlement.

References

Barry M and Ruther H (2005) Data Collection Techniques for Informal Settlement Upgrades in Cape Town, South Africa: *URISA Journal*, vol. 17, no. 1, 2005, pages 43-52.

Bench Marks Foundation (2016)., Smoke and Mirrors: Lonmin's Failure to Address Housing Conditions at Marikana. Amnesty International , Johannesburg.

https://www.amnesty.org.nz/sites/default/files/Amnesty%20International%20report%20%20Lonmin%27s%20failure%20to%20address%20housing%20at%20Marikana.pdfb accessed 12 August 2016

Burgert G (2017) Area Overview report. Map Able Visualize.Map .Collaborate. http://mapable.co.za/

Bosman BN (2014) The Department of Human Settlement's Policy on Eradicating Informal Settlements in South Africa: A De-colonial Feasibility Analysis: The Department of Development Studies University of South Africa, Pretoria.

Broad –Based Socio-Economic Empowerment Charter for the South Africa Mining Industry: Department of Mineral Resources, Pretoria.

https://www.westerncape.gov.za/Text/2004/5/theminingcharter.pdf accessed 01 September 2016

Buhlungu S (2008) From Comounded to Fragmented Labour: Mineworkers and demise of compounds in South Africa: Sociology Department University of Johannesburg, Johannesburg.

Cairncross E Kisting S Liefferink M van Wyk D (2013) Case study on Extractive Industries prepared for the Lancet Commission on Global Governance, Report from South Africa.

Cheshire, Lynda, Jo-Anne Everingham, and Catherine Pattenden (2011)"Examining corporate-sector involvement in the governance of selected mining-intensive regions in Australia." Australian Geographer 42.2 : 123-138: Chester Hill, Australia.

Chinguno C (2013) Working Paper 1: Marikana and the post-apartheid Workplace order, 08-12: Society, Work, Development Institute, University of Witwatersrand, Johannesburg.

City of Cape town (2013) Proactive Re-blocking of Informal Settlements (Policy Number 13282). Approved by Council C40/10/13. City of Cape Town Cape Town.

City of Tshwane Metropolitan municipality By-laws relating to the management and control of Informal settlement. http://www.tshwane.gov.za/sites/business/Bylaws/Draft%20ByLaws/bylaw_informalsettlements.pdf accessed 13 August 2016.

Corno L and De Walque (2012) "Mines, Migration and HIV / AIDS in Southern Africa. Oxford University Press

Costa S. D and M. J Scoble (2006) "Mine Accommodation Strategies–Case Studies in Developing Countries." Proceedings of the AusIMM First International Mine Management Conference: International Mine Management Conference

Creswell JW (2003) Research Design Qualitative, Quantitative and Mixed Methods Approaches Second Edition: Sage Publication, London United Kingdom.

Creswell JW (2009) Research Design Qualitative, Quantitative and Mixed Methods Approaches Third Edition: Sage Publication, London United Kingdom.

Creswell JW (2014) Research Design Qualitative, Quantitative and Mixed Methods Approaches Fourth Edition: Sage Publication. London United Kingdom.

Department of Mineral Resources (2015) Assessment of the Broad-Based Socio-economic empowerment Charter for the South African Mining Industry (mining Charter). Pretoria: Department of Mineral Resources

Department of Human Settlement (2009) The Policy Context Volume 4, Part 3 National Housing Code. Pretoria: Department of Human Settlement

Department of Human Settlements (2010) National Housing Policy and Subsidy Programmes. Pretoria: Department of Human Settlement.

Department of Labour (2007) Labour Migration and South Africa: Towards a fairer deal for migrants in the South African Economy, Department of Labour Chief Directorate. Pretoria: Department of Labour

Dishaba Mine, Thabazimbi, South Africa http://www.mining-technology.com/projects/dishaba-mine-thabazimbi/ accessed 12 January 2017

Ehebrecht D (2014) The Challenge of Informal Settlement Upgrading , Breaking New Ground in Hangberg, Cape Town:Berlin, Germany. University of Potsdam

Fleming, David A Thomas G. Measham, and Dusan Paredes (2015) "Understanding the resource curse (or blessing) across national and regional scales: Theory, empirical challenges and an application." Australian Journal of Agricultural and Resource Economics: Australia

Franklin S (2011) Enabled to Work? The Impact of Housing Subsidies on Slum Dwellers in South Africa.

Godhart S & Vaughan A (2008) Research Reviewing of the BNG in reletion to Upgrading Informal Settlement. Research Paper for Theme 1: Conceptual Framework for the National Department of housing.

Gudlhuza Development Solutions (2012) Plan for Upgrading of Informal Settlements, Rustenburg Local Municipality: Rustenburg Local Municipality.

IMPLATS (2006) Corporate Responsibility Report.

http://www.implats.co.za/cr/files/cr_report_2006.pdf

Chapter 7 Sustainable Human Settlements Social Housing, Transforming Dormitory Townships and Housing Projects. http://www.joburg-archive.co.za/2006/pdfs/final_term/Chapter7.pdf

Crush J, Jeeves C and Yudelman D (1991) South Africa's Labor Empire: A History of Black Migrancy to the Gold Mines : Westview Pr .

Huchzermeyer M (2003) A Legacy of Control? The Capital Subsidy for Housing, and Informal Settlement Intervention in South Africa: Volume 27 September Pages 591-612

Huchzermeyer M Baumann T and Mohamed S (2004) Background Report 3: Informal Settlement Practice in South Africa's Metropolitan Cities, Study into the Support of Informal Settlement. Prepared for Department of Housing by University of Witwatersrand Team

Huchzermeyer M (2004) Invasions, evictions and the law in South Africa. Postgraduate Housing programme, University of Witwatersrand. Research presentation at national housing research seminar, Pretoria.

Huchzermeyer M (2008) Settlement Informality: The Importance of Understanding Change, Formality and Land and the Informal Economy. University of Witwatersrand

Huchzermeyer M (2009) The Struggle for in situ Upgrading of Informal Settlement : Case Studies from Gauteng. *Development Southern Africa.*

Huchzermeyer M (2006) The New Instrument for Upgrading Informal Settlements In South Africa: Contrubitions and Contraints. *Informal Settlements: A Perpetual Challenges? Huchermeyer, M., and A. Karam (eds), Cape Town : University of Cape Town Press.*

Incrementally securing tenure in slum upgrading: Reflections on promising practices in Southern Africa. Adpating and strengthening local land management practice : The case of Springvalley in eMalahleni (Mpumalanga), South Africa. http://www.urbanlandmark.org.za/downloads/tsfsap_pn_03.pdf accessed 25 January 2017

Jennifer B Averill Rn (2013) Content Synopsis for Basic Qualitative Inquiry. A special project for: The New Mexico Centre for the Advancement of Research Engagement and Science NMCARES Health Disparities Centre.

Jones W (1992) Our Precious Metal: African Labour in South Africa's Gold Industry: Cape Town. David Philip (Pty) Ltd ,United Kingdom James Cury Ltd, United State of America, Indiana University Press,

Lamba AO (2005) Land tenure management systems in informal settlements. A case study in Nairobi. International Institute for Geo-information Science and Earth Observation (ITC) Enschede, The Netherlands.

Mack N Woodsong C Macqueen KM, Gust G and Namey (2005) Qualitative Research Methods: A Data Collector's Field Guide. Family Health Organisation. USAID, Research Triangle Park, North of Carolina, USA.

Mangaung Metropolitan Municipality (2013) By-laws Relating to Informal Settlements as promulgated in Provincial Gazette, No 60. Mangaung Metropolitan Municipality.

Marais L and Nel, E (2016) The dangers of growing on gold: Lessons for mine downscaling from the Free State Goldfields, South Africa. vol. 31, issue 1-2, pages 282-298

Mears R (2007) Historical Development of Informal Township Settlements in Johannesburg since 1886: Presented at Economic History of Southern Africa Conference 10-12 September Indaba Hotel, Fourways, Johannesburg.

McKenzie H Fiona M and Rowley S (2013) "Housing market failure in a booming economy." Housing Studies : Pages 373-388.

Migrant labour and Housing

http://www.goldwagenegotiations.co.za/assets/downloads/factsheets/2013/factsheet-accommodation .pdf accessed 06 October 2015

Migration, Land and Housing: Surfacing findings from in-depth study in selected settlements in Rustenburg and Lephalale.

http://stepsa.org/

Mining Charter Impact Assessment Report 2009

http://www.dmr.gov.za/publications/finish/108-minerals-act-charter-and-scorecard/126-miningcharterimpact-oct-2009/0.html accessed 07 October 2015

Mining Reserves in South Africa

http://www.gov.za/about-sa/minerals accessed 26 August 2016

Mining in South Africa

http://www.projectsiq.co.za/mining-in-south-africa.htm accessed 26 August 2016

Misselhorn M (2008) Position Paper on Informal Settlements Upgrading Draft Part of a Strategy for Second Economy for the Office of the South Africa Presidency.

Mogale Local Municipality (2010) Management and Control of Informal Settlement: Department of Economic Services, Directorate of Human Settlements. Mogale City Local Municipality

Mohammed HA and Muhammad SS. (2006). The Causes and Consequences of the Informal Settlements in Zanzibar , Tanzania. Munich, Germany, October 8 – 13.

Morrison T.H Wilson C and Bell M (2012) The role of private corporations in regional planning and development: Opportunities and challenges for the governance of housing and land use. Journal of Rural Studies Page 478-489

National Upgrading Support Programme . Cities Alliance

http://www.citiesalliance.org/sites/citiesalliance.org/files/CAFiles/Projects/NUSP_Final_Assessment_Report.pdf accessed 21 March 2017

National Upgrading Support Programme. Housing Development Agency

https://www.thehda.co.za/uploads/files/NUSP_newsletter_No_1.pdf accessed 21 March 2017

Northam Platinum Limited Annual Report

http://www.northam.co.za/investorsanmedia/publications/announcements/2014/725-settlement-reached-at-northams-zondereinde-mine-06October2015

Northam Platinum Limited Zondereinde mine

http://www.northam.co.za/about-northam/zondereinde

Ntlatse Planning Consulting (2012) Feasibility Study Report Schilpadnest 385 KQ and Zwartkop 369 KQ . Prepared for Limpopo Department of Cooperative Governance Human Settlement & Traditional Affairs. Polokwane Limpopo Province.

Nunez, R.J (2009) Circular Migration and Employment in Southern Africa: Trade and Industry Policy Strategies

Operation Phakhisa to Fask track NDP (2017) Productivity SA.

https://www.productivitysa.co.za/index.php/talking-productivity-sections/operation-phakisa-to-fast-track-ndp

Petkova, V., Lockie, S, Rolf, J. and Ivanova, G. (2009) "Mining developments and social impacts on communities: Bowen Basin case studies." Rural Society: Pages 211-228.

People living in **informal settlements**

http://www.who.int/ceh/indicators/informalsettlements.pdf

Policy on Prevention of Land Invasion

http://www.modimolle.gov.za/docs/policies/POLICY%20ON%20THE%20PREVENTION%20OF%20LAND%20INVASION.pdf accessed 25 August 2016

Re-blocking of informal settlements

https://www.amnesty.nl/sites/default/files/public/amnestylonminreportfinal11082016.pdf

Ramphele M (1993) A Bed Called Home: Life in the Migrant Labour Hostels of Cape Town : David Philip Cape Town . Ohio University Press, Athens. Edinburg University Press, Edinburg.

Rayston L (2013) Incrementally Securing Tenure. Promising practices in informal settlement upgrading in southern Africa. Written for TSFSA. Available online at www.urbanlandmark.org.za

Republic of South Africa (1996) The **Constitution** of the Republic of South Africa, Act 108.

Republic of South Africa (1998) **Prevention of Illegal Eviction from and Unlawful Occupation of Land**, Act 19. Government Gazette, Pretoria.

Republic of South Africa (1997) **Extension of Tenure Se**curity ,Act 62 Republic of South Africa (2006) **Statistics Community Survey** Government Gazette, Pretoria.

Republic of South Africa (2002) **Mineral and Petroleum Resources Development,** Act 28. Government Gazette, Pretoria .

Republic of South Africa (2009) **Mineral and Petroleum Resources Development**, Act 28 Publications of the Housing and Living Conditions Standard for the Minerals Industry. Government Gazette, Pretoria.

Rubin M and Royston L (2008)., Local Land Registration Practices in South Africa. Urban Land Mark, Pretoria, November 2008. http://www.urbanlandmark.org.za/downloads/tm2010_06.pdf

Rustenburg Community Report (2011) http://www.bench-marks.org.za/publications/rustenburg_community_report_2011.pdf accessed 20 August 2016

Rustenburg Local Municipality **Plan for the Upgrading of Informal Settlement** (2012/13-2014/15)

www.rustenburg.gov.za

SALGA (2011) Guidelines Document of the role and Responsibilities of Councillors, Political Structures and Officials. https://www.salga.org.za/Documents/Municipalities/Guidelines%20for%20Municipalities/Guideline-Document--On-The-Roles-and-Responsibilities-of-Councillors-and-Officials-%282%29-%281st-Draft%29_.pdf

Smith D and Abrahams G (2010) Incrementally Securing Tenure. An approach for Informal Settlement Upgrading in Southern Africa. Available online at www.urbanlandmark.org.za

Sokupa, M (2012) Re-Blocking of informal Settlements . City of Cape town http://www.sahf.org.za/Images/2012%20Proceedings/PowerPoints/SOKUPA_MZWANDILE.pdf accessed 25 August 2016

Stuckler D Basu S Mckee M and Lurie M (2011) Mining and Risk of Tuberculosis in Sub-Saharan Africa." Am J Pub Health. :Page 524-530

Thabazimbi local municipality Integrated Development Plan (IDP) 2016/2017

The Millennium Development Goal (2000-2015)

http://www.sarpn.org/documents/d0001378/We-the-people_2005_MDG.pdf accessed 12 January 2017

Tshangana M (2015) Selected committee presentation on the Revitalisation of Distressed Mining Towns. The National Department of Human Settlements, Pretoria.

Tshikotshi V (2009) The challenges of eradicating informal settlements in South Africa by 2014. The case of Sereleng sustainable human settlement, Rustenburg local municipality, North West Province. Master's dissertation. Johannesburg: University of the Witwatersrand, Faculty of Engineering and Built Environment.

Tumela Mine, Thabazimbi, South Africa http://www.mining-technology.com/projects/tumela-mine-thabazimbi/ accessed 12 January 2017

Un-Habitat III (2015) Habitat III Issue Papers 22- Informal Settlements . New York.

www.unhabitat.org

Wolpe H., (1972) Capitalism and Cheap Labour Power in South Africa: from Segregation to Apartheid. Pages 425-456

Ziblim, A. (2013). The Dynamics of Informal Settlement Upgrading in South Africa: Legislative and Policy Context, Problems, Tensions, and Contradictions, A study Commissioned by Habitat for Humanity International/EMEA Office Bratislava, Solvekia, Final Research Report: Commissioned by Habitat for Humanity International / EMEA Office Bratislava, Slovakia.

http://www.gltn.net/jdownloads/GLTN%20Documents/handling_land_eng_2012_.pdf

APPENDICES

Appendix 1: The survey instrument

Interview Questionnaire: Smashblock informal settlement residents, mine employees, mine housing official, municipal and provincial officials.

Introduction

I am Phathu Siebe student from Wits University and also employee of the Waterberg District Municipality. I am conducting research survey.

I have randomly chosen some dwellers to be part of the research study and you were nominated.

The purpose of the study is to gather information from the residents of Smashblock, Thabazimbi municipality, mining industry and provincial government about the appropriate improvement intervention and management strategy for Smashblock informal settlement.

All information that you provide will be confidential

Residents, Councilor and Community Interview Questions

Profile of Residents

A1. Who lives in Smashblock? (Male /Female, appropriate age ranges etc.)
A2. Where do people in Smashblock come from?
A3. How long do people tend to stay in Smashblock?
A4. Why do they leave? Where do they go to?
A5. Which language are they speaking?
A6. What are the household arrangements in Smashblock (e.g. are people living with their families or here on their own, is it mainly single adults, or people)?
A7. Where is home? Who is at home?

A8. How do they earn an income in the area? What various source of income sustain people in the settlement? Where do they earn income (do they have to travel , where to, what local employment or earning opportunities are there?)

Living Conditions in Smashblock

A9. How and where do people access water?

A10. What are the sanitation arrangements?

A11. What do people do for lightning, cooking and appliances? Who provides each of these services?

A12. Are they satisfied with the existing services (water, sanitation, electricity, waste collection and road infrastructure) provided by the Thabazimbi Local Municipality?

A13. What amenities and facilities are there (e.g. crèches, clinics, police station, shops, schools etc.?

A14. What are the issues and problems with services, amenities and facilities?

A 15. What towns and industries does Smashblock connect to?

A.16 How do people get there?.(using what transport). How long does it take? How much does it cost?..

A.17 Do the police maintain order, monitoring and preventing crime in Smashblock?

A.18 What kinds of accommodation are people living in? Who supplies/ provides this? What is the cost of it (monthly rent? Or once off purchase?)

Governing Smashblock

A.19 What are the main organizations in Smashblock and who are the leaders of Smashblock?

A.20 How do people in the area feel about the Smashblock Leadership (Ward councilors and other community leaders)?

A.21 Who runs Smashblock? Who manages Smashblock?

A.22 What are they managing, what does management of Smashblock involve?

A.23 What needs to be managed but isn't at the moment? (ie what gaps in management are there?)

A.24 What are the main issues facing residents in Smashblock?

A.25 What issues do leaders have to assist with?

A.26 What do you see as the main priorities for the settlement?

Plans for Smashblock

A27. What plans are there for the future of Smashblock?

A.28 What plans do you (resident, or leader) think there should be for Smashblock? Why?

A29. What do you envision for the future of Smashblock? Why?

A30. Why are these ideas suitable for Smashblock, particularly

A31. What do residents engage the Thabazimbi Local Municipality and the mining companies about the Smashblock? How do they engage (through what forums, structures etc.)?

A32. Do the ward councilors engage the local residents about the improvement and management of Smashblock informal settlement?

A33. Do the ward councilors, civic organization leader and religious, group leader understand the nature of Smashblock informal settlement?

A34. Do the residents consider relocation if granted by local authority?

A35. Do the residents consider the upgrading of Smashblock informal settlement?

A36. What do people mean by upgrading? What would this involve, specifically?

A37. Do the residents and ward councilors know about dolomitic ground in the area? What do residents understand by this issue? How does it affect their plans for the area?

Government Official, Mining Housing official, Mineworkers, Mine union representatives Interview Questions

Plans and Management of Smashblock

B1. Who manages Smashblock? What does this involve? (What is managed?) What needs to be managed, and what gaps are there currently?

B2. Do the mining companies, local municipality and other entities have any plans to Smashblock informal settlement improvement and management? What does this entail?

B3. What does the municipality understand to be the main causes for the existence of Smashblock informal settlement? What other alternatives are there to Smashblock?

B4. Do the municipality or other entities have relocation and/or upgrading plans in place? What do these plans consist of?

B5. Does the municipality have enough budgets to improve infrastructure in the area? What infrastructure improvements are envisaged? When? For whom? Where?

Housing conditions & Allowances

B6. Do the mining companies play any role in the improvement of Smashblock informal settlement? What is the mining companies' involvement in the area? What do they do (specifically)?

B7. Do the mining companies provide affordable housing allowance to the workers? How does this living allowance work? How does this relate to how people live in Smashblock?

B8. Why do most of the workers intend to stay at Smash Block Informal Settlement?

B9. What does the municipality supply to Smashblock? Do the municipality supply enough services to the residents of Smashblock informal settlement?

B10. Do the municipality know about any future mines around Smashblock and other area close to Smashblock?

B11. What are the housing conditions in Smashblock? Who supplies this accommodation? Why workers are always constructing their own shacks in Smashblock?

B12. Do the municipality and entities have enough capacity or personnel who can understand informal settlement policies and guidelines?

B13. Do the mining companies offer other accommodation for mining workers?

B14. What policy do they think can assist with the future of the Smashblock Informal Settlement?

Appendix 2: List of Interviewees

Focus Group 1 Smashblock residents and leadership 28-01-2017

Focus Group 2 Smashblock Residents 17-02-2017

Makutu, Tshepo.Thabazimbi Municipal planner, 30-01-2017

Van Rensburg, Piet. Thabazimbi Municipal Planner 30-01-2017

Dali, Robert Mulatedzi. Provincial COGSHTA Official 03-02-2017

Lesetsa, Jack. Amandabelt Anglo Platinum mine housing official 02-02-2017

Madonsela, Thado. Housing Development Agency Official 16-02-2017

Sithagu, Taki. Wits-TUB Project Coordinator and Lecturer 16-02-2017 former NUSP coordinator