

https://dspace.org/

Understanding informal settlements in South Africa: the waterworks informal settlement profile and responses

Nkoane, Adelaide

2019-10

https://hdl.handle.net/10539/29055

Nkoane, Adelaide Mahlatse. (2019). Understanding informal settlements in South Africa :the waterworks informal settlement profile and responses, University of the Witwatersrand, https://hdl.handle.net/10539/29055

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



Understanding informal settlements in South Africa: The Waterworks informal settlement profile and responses

---

by

Adelaide Nkoane

School of Architecture and Planning

University of the Witwatersrand

Johannesburg, South Africa

Supervisor: Dr Sarah Charlton

A Research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of the Built Environment in Housing.

October 2019

DECLARATION

I declare that this Research Report is my own unaided work. It is being submitted for the Degree of Master of the Built Environment in Housing to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.



Signature

29th day of October , 2019

ABSTRACT

Understanding the proliferation of informal settlements in South Africa is significant because they have been a feature of our landscape for many years and will continue to be in the future in spite of the attention given to the issue of housing by the government through various housing delivery interventions. Studies have indicated that informal settlements provide shelter for a large number of people who are the poor urban dwellers. There are gaps in literature that demonstrate the distinction between informal settlements within the South African context, despite years of research conducted on informal settlements.

The differentiation of informal settlements contests the homogeneity of informal settlements that fall into groupings and sub-categories that require targeted interventions specific to their contexts. The Housing Development Agency (HDA, 2012) "is mandated to assist organs of State with the upgrading of informal settlements". One of its key activities is to profile informal settlements, particularly in mining towns, in order to understand the data "relating to the number of informal settlements, profile of residents, length of stay, aspirations, income groups, education status" (HDA, 2012:12).

Using this set of distinctions, this research aimed to understand the characteristics, dynamics and nature of the Waterworks informal settlement and where it lies within the bigger narrative of informal settlements. It therefore investigated the settlement's demographics, history, the reason for its existence, how it is understood by its residents, how it is understood in relation to scholarly articles and how it could be understood through government plans.

Key words: Housing backlog, Differentiation of informal settlements, Informal settlements groupings and typologies.

ACKNOWLEDGEMENTS

I would like to extend words of gratitude to everyone who stood by me throughout this research writing journey, with special reference to the following people:

To my supervisor, Dr Sarah Charlton. Thank you for always being there to provide input, guidance and words of wisdom. It was not easy, but with you, the load seemed lighter and, more than anything, you helped me to push for greater heights.

Secondly, this study would not have been possible without the financial assistance of the National Research Foundation (Living the Urban Periphery Project). Thank you for carrying my financial burdens.

Special thanks to Mma le Papa, for all the love, care, support and prayers. You two are the best pair given to me as a gift from God. You have kept me going - Ke a Leboga!!!

Thapelo Nkoane – lil bro, you are the next best thing that has ever happened to me. Thank you for the everyday texts and calls of encouragement. They kept me going, day in, day out, until the end.

My extended family, bo mmangwane, my cousin Daisy Lebepe and my sweet little nephews and nieces – you have been amazing.

All the friends who have been part of this research journey, Rhulani Mabasa, Khakhalomzi Sobuwa, Zawazi Zulu and Prince Malatjie - your support is highly recognised.

Above all, the Almighty GOD, Ntate kea leboga. Thank you for making this dream a reality. Thank you for all the love, grace, wisdom and strength to continue in the midst of adversity.

Thank you to everyone who believed in me.

TABLE OF CONTENTS

DECLARATION ..... **i**
ABSTRACT ..... **ii**
ACKNOWLEDGEMENTS ..... **iii**
LIST OF FIGURES ..... **vi**
LIST OF TABLES ..... **vi**
CHAPTER 1: INTRODUCTION **1**
1.1 Research Introduction 1
1.2 Research Background 2
1.3 Problem Statement/Research Rationale 3
1.4 Aims and objectives of the study 3
1.5 Why the Waterworks informal settlement? 4
1.6 Research Questions 5
1.6.1 Main question 5
1.6.2 Sub-questions 5
1.7 Conclusion 5
CHAPTER 2: LITERATURE REVIEW **6**
2.1 Introduction 6
2.2 Understanding Informal Settlements 6
2.2.1 Defining Informal Settlements 6
2.2.2 Informal Settlement Debates 7
2.2.2.1 The genesis of urban informality *7*
2.2.2.2 Concepts interlinked with Informal Settlements *7*
2.2.2.3 Informal Settlements as a Global Phenomenon *8*
2.2.2.4 The impacts of Living in Informal Settlements *9*
2.3 Tenure systems 10
2.4 Lived Experiences in Informal Settlements 12
2.5 Informal Settlement Interventions 13
2.5.1 Informal settlement upgrading policies in South Africa 15
2.5.2 The new approach towards upgrading informal settlements 16
2.5.2.1 Power relations *19*
2.6 The Characterisation of Informal Settlements 20
2.6.1 Settlement location 20
2.6.2 Informal settlement typologies 22
2.7 Conclusion of literature review 25
2.8 Conceptual framework diagram 25
CHAPTER 3: ARTICULATING THE RESEARCH METHODOLOGY **27**
3.1 Introduction 27
3.2 Qualitative Research Method 27
3.2.1 Interviews 27
3.2.2 Key informants 28

3.3 Research Findings analysis 28
3.4 Limitation of the research 29
3.5 Ethical Considerations 29
3.6 Conclusion 30
CHAPTER 4: THE NATURE OF THE WATERWORKS INFORMAL SETTLEMENT 31
4.1. Introduction 31
4.2 Future developments in the settlement 34
4.3 Conclusion 36
CHAPTER 5: FIELD FINDINGS AND SYNTHESIS 37
5.1 Introduction 37
5.2 Lived experiences and challenges of the Waterworks informal settlement residents 37
5.2.1 Lack of basic services 37
5.2.2 Safety 39
5.2.3 Lack of employment 40
5.3 The pros/cons of living in Waterworks 41
5.3.1 How residents feel about being relocated 42
5.4 Conclusion 44
5.5 Rapid Assessment and Categorisation (RAC) of the Waterworks informal settlement 44
CHAPTER 6: ANALYSIS OF FINDINGS 50
6.1 Themes emerging from the research 50
6.1.1 Paradoxical sense of community 50
6.1.2 Loss of dignity due to lack of services 51
6.1.3 Resident apathy: perceived impact of relocation 51
6.2 Broader observations 52
6.2.1 Power and influence 52
6.2.2 Social displacements and quality of life 52
6.2.3 Access to services and quality of life: Security and dignity 53
6.2.4 Tenure and land rights 54
6.2.5 Economic growth with no economic development 54
CHAPTER 7: CONCLUSION 56
7.1 Introduction 56
7.2 Answering the research questions 56
REFERENCES 59
ANNEXURE A: ETHICAL CLEARANCE 68
ANNEXURE B: PARICIPATION INFORMATION SHEET 69
ANNEXURE C: FORMAL CONSENT FORM 70
ANNEXURE D: INTERVIEW QUESTIONNAIRES 73

LIST OF FIGURES

Figure 2.1: The implementation procedure of an in-situ upgrading programme 19
Figure 2.2: Understanding informal settlements in South Africa: The Waterworks informal settlement profile and responses 26
Map 4.1: Contextualising Waterworks within Gauteng 31
Map 4.2: Protea Glen and surrounding developments 34
Map 4.3: The earmarked site to develop “Protea City” 35
Map 5.1: Geology: Dolomitic areas in Westonaria 47

LIST OF TABLES

Table 2.1: Summary of characterisation 25
Table 2.2. Interviewees 48

CHAPTER 1: INTRODUCTION

1.1 Research Introduction

The increase in population in developing countries poses a considerable challenge to the government, particularly in South Africa, as there is a rising demand for well-located land and housing which exceeds the supply. According to Section 26 of The Bill of Rights (South Africa, 1996), "[e]veryone has the right to have access to adequate housing" and "[t]he state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right". The South African government has therefore been working towards fulfilling this constitutional obligation by providing almost four million houses to the poor however, there are constraints because the scale of need is higher than the available finances (Amin & Cirolia, 2018). Research has indicated that "millions of people are waiting in backyard shacks, informal settlements, overcrowded accommodation and hijacked inner city buildings for the state to provide" them with housing (Amin & Cirolia, 2018: 276).

Responses by city planning and housing authorities have remained inadequate as informal settlements continue to grow in South Africa (Weakley, 2014). The most contested responses to informal settlements in Johannesburg have been the relocation of residents to new housing developments that are often undertaken to create order or to make space for formal developments (Weakley, 2014).

The initial aim of this research was to investigate the dynamics and elements that are significant in improving the quality of life of residents living in the Waterworks informal settlement. This was to be done to provide detailed information needed for interventions however, as the research proceeded, the researcher learnt that certain decisions had already been taken to relocate the settlement to the subsidised housing development called Westonaria Borwa. Nevertheless, the research was still relevant to understand the informal settlement and how this understanding informed the decisions and interventions taken about it. This research aimed to understand the characteristics, dynamics and nature of the Waterworks informal settlement.

This introduction chapter provides a detailed context for this research study in order to clarify how the aims and objectives of the research will contribute to the existing literature on informal settlements. The chapter begins with a background and a problem statement. This is followed by a discussion around the research focus which gives a brief overview of the aims and objectives of the study. It concludes by outlining the research questions of the study.

1.2 Research Background

Understanding the proliferation of informal settlements in South Africa is significant because they have been a feature of our landscape for many years and will continue to be in the future. In 2002 it was estimated that almost one billion people were living in informal settlements worldwide (UN-Habitat, 2004: 2 cited in Wekesa, Steyn & Otieno, 2011) and this number is increasing. The numbers of South African households living in informal settlements have increased from 1 804 430 in 2007 to 1 963 096 in 2011 (Statistics South Africa, 2012 cited in Weakley, 2014). The HDA[1] indicates that, in 2013, approximately 11% of households in South Africa were living in informal settlements (Adegun, 2016).

Informal settlements have continued to grow in the South African spatial landscape due to urbanisation, population growth, the existing housing backlog and migration to urban areas to seek employment opportunities (Weakley, 2014; Richards, O'Leary & Mutsonziwa, 2007). This has happened despite the attention given to the issue of housing by the government through various housing delivery interventions. Richards et al. (2007), Huchzermeyer (2006), Charlton (2006) and Wekesa et al. (2011), among others, have indicated that informal settlements provide shelter for a large number of poor urban people in South Africa.

In order to address South Africa's housing backlog and lack of affordability, the government developed programmes and instruments to assist low income households (Landman & Napier, 2010). In addition to other ground-breaking mechanisms aimed at increasing affordable housing, these programmes include low income housing, social housing and a subsidy system that facilitates the Reconstruction and Development Programme (RDP) (Landman & Napier, 2010). The prioritisation of low-cost housing provision by the government has resulted in the introduction of the "Breaking New Ground" (BNG) plan in 2004 which aims to encourage an integrated society through the development of sustainable human settlements and adequate housing within a subsidy system for various income groups (Department of Human Settlements, 2004). This included the Upgrading of Informal Settlements Programme (UISP) to deal with the rapid rise of informal settlements.

The predominant problem that contributes to the shortage of housing delivery in this country is the lack of adequate, well-located and affordable land, particularly in urban areas (Napier, 2009 cited in Landman & Napier, 2010). Land prices exclude low-income households from accessing well-located land, leading to illegal land invasions or the obligation for the

[1] The HDA is a national public sector development agency that acquires and prepares land, develops the land and project manages the development of housing and human settlements (HDA, 2017).

government to purchase such land for subsidised housing (Napier, 2009 cited in Landman & Napier, 2010). However, households that do not qualify for the RDP/BNG housing subsidy or those that do qualify but have not yet received the housing benefit have to rely on self-help options (Napier, 2009 cited in Landman & Napier, 2010). These include assembling shacks on unoccupied, well-located land leading to the development of informal settlements.

1.3 Problem Statement/Research Rationale

Although there is plenty of literature on informal settlements in different contexts in South Africa and across the world, despite years of research conducted on informal settlements, there are gaps in literature regarding the different types of informal settlements within the South African context. This research builds on Lombard's (2014: 3) argument that "the lack of understanding of these places is reflected in discourses in which particular narratives dominate, containing some problematic assumptions". These assumptions contribute to the implementation of interventions that are often generic. For this reason, understanding informal settlements and their residents can inform appropriate interventions.

Dominating narratives in literature indicate that informal settlements are places with social turbulence, squalor and crime (Turok, 2015). However, there is another side that is not sufficiently explored (Jenkins, 2006) which consists of the dynamics of the settlements, the reasons behind their character and their location which often revolves around access to land.

The differentiation of informal settlements contests the homogeneity of informal settlements that fall into groupings and sub-categories that require targeted interventions specific to their contexts therefore the HDA "is mandated to assist organs of State with the upgrading of informal settlements". Thus, one of its key roles is to profile informal settlements in order to understand the trends and the status quo "in terms of data relating to the number of informal settlements, profile of residents, length of stay, aspirations, income groups, education status" (HDA, 2011: 12). However, the HDA only focuses on informal settlements that are in mining towns.

1.4 Aims and objectives of the study

The main objective of this study was to contribute to the understanding of informal settlements in South Africa. As part of this, the research unpacks key distinctions evident across a range of informal settlements specifically looking at their characterisation and typology. Using this set of distinctions, this research investigated the characteristics, dynamics and nature of the Waterworks informal settlement. The study develops a portrait of the Waterworks informal settlement in order to understand the kind of settlement it is and where it lies within the bigger

narrative of informal settlements. The portrait consists of a discussion around the settlement's demographics, the history of the settlement, the reason for its existence, how it is understood by its residents, how it is understood in relation to scholarly articles and how it could be understood through government plans.

1.5 Why the Waterworks informal settlement?

The Waterworks informal settlement was chosen primarily because it is one of the case study sites under the *Living the Urban periphery* project and this research is connected to that project. *Living the Urban periphery* aims to understand how transformation in the peripheries of African cities, specifically related to infrastructure investments and economic change, is shaped, governed and experienced with a view to informing urban governance and strategies for urban poverty reduction (Charlton, 2016). The settlement is currently being relocated because the site is earmarked for development. As revealed by the minutes from a meeting held on the 4th of July 2018 between the developers and the municipal manager of Rand West City Local Municipality, the plans to develop the site are an advanced stage. The site is located on the border of this municipality and the City of Johannesburg, Region D (Protea Glen).

The main objective for this meeting was for the Property Developer (2018) to request the municipality to expedite the relocation of the Waterworks residents to another subsidy housing development called Westonaria Borwa Housing Project. This proposed relocation has challenges as most of the Waterworks residents do not qualify for subsidised housing allocation due to their nationality as most of them are not South African citizens. However, Section 26(3) of the South African constitution protects them from evictions. The authorities are therefore faced with a difficult task of finding appropriate solutions by balancing the housing problems faced by Waterworks residents and the opportunity of bringing a catalyst industrial development project that can create jobs and business opportunities to the local economy.

The proposed development includes an industrial business park, retail and commercial hubs and a solar farm to service the existing surrounding residential and proposed industrial townships. This development poses a challenge of competing interests of land uses to serve the need in the area. Development prospects in this area affirm the logic behind the residents' choice to set up an informal settlement in the area. The site's development potential, with access to amenities in the surrounding areas, and accessibility through arterial routes linking the two provinces of North West and Gauteng, make this an ideal location for communities seeking shelter in the urban periphery.

1.6 Research Questions

1.6.1 Main question

What is the nature of the Waterworks informal settlement, what does this suggest for appropriate interventions, and how does this compare with actual practice?

1.6.2 Sub-questions

- What are the key characteristics of the Waterworks informal settlement and its residents?
- What are the lived experiences of residents of Waterworks informal settlement?
- What interventions would mostly improve the residents' quality of life and how does this compare with actual practice?

1.7 Conclusion

This chapter has outlined the aims and objectives of the study. The research report is divided into six chapters. Chapter 2 discusses the existing literature around understanding informal settlements by reviewing elements such as lived experiences, informal settlement interventions and the characterisation of informal settlements.

Chapter 3 is the methodology section of the study and it provides a detailed discussion about the methodology used to answer the research questions. In addition, it outlines the contextual background of the case study and the future developments in and around the informal settlement. Chapter 4 details findings around the challenges faced in the settlement, the lived experiences and the rapid assessment or categorisation of the Waterworks informal settlement. Chapter 5 provides an analysis of the findings in comparison with the literature reviewed in Chapter 2. Lastly, Chapter 6 concludes the study reflecting on key lessons from policy and implementation experience.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This section will unpack four groupings of literature. The first grouping looks at how informal settlements are understood as well as debates around informal settlements. This is followed by a second grouping that discusses the lived experiences in informal settlements and the functions of informal settlements. The third grouping deals with informal settlement interventions. Lastly, the fourth section unpacks the characterisation of informal settlements using literature that discusses different typologies or categories of informal settlements and settlement locations.

2.2 Understanding Informal Settlements

2.2.1 Defining Informal Settlements

The study acknowledges that there are multiple definitions of informal settlements and various terms that are synonymous with this type of housing. The term "informal settlement" predominantly refers to "a settlement of the urban poor developed through the unauthorised occupation of land" (Huchzermeyer, 2006: vii) or "a built environment which is a slum, either under illegal or legal tenure" and this could be formal buildings, such as those in Hillbrow, Johannesburg (Wekesa et al., 2011: 239).

Davis (2006: 7) argues that these settlements are "defined by sub-standard housing with insecurity of tenure and the absence of one or more urban services and infrastructure, sewage treatment, plumbing, clean water, electricity, paved roads and so on". These informally created living spaces are referred to as an "informal settlement, slum, shantytown, squatter camp, favela, ghetto, bidonvilles, Katchi Abadis, and campamentos" (Smit, Musango, Kovacic & Brent, 2017: 107). In addition to the definitions discussed above, there are informal settlement types that are within a continuum between legal and illegal, formal and informal, and planned and unplanned (Smit et al., 2017). Another category of settlement is associated with the concept of legitimacy or illegitimacy (Smit et al., 2017). According to Roy (2005 cited by Smit et al., 2017: 111), "informality should be understood as produced by the state itself through its legal and planning apparatus which determines what is informal or not, who is deserving or not".

Internationally, the term 'slum' is used to refer to informal settlements (Huchzermeyer & Karam, 2006). The UN-Habitat's definition of slum includes indicators, such as security of tenure, living space, durability of dwelling, access to water and sanitation, thus the definition

fails to take cognisance of other factors responsible for slum formation that affect slums (UN-Habitat, 2010; Smit et al., 2017). Although the terms “informal settlement” and “slum” often have common characteristics, they are not synonymous (Weakley, 2014). It is important for the above definition of slums to focus on issues associated with slum living, such as income inequalities, which contribute to the exclusion of low-income households from the housing market; how housing policies do not match with actual practice; lack of economic opportunities; and in-migration to areas that are at a proximity to economic opportunities.

The definitions reviewed above indicate that informal settlements are defined based on characteristics that include building form, tenure and service delivery. This study has constructed a definition for the term based on several definitions from literature. Therefore, the definition of an “informal settlement” for this research is a settlement that has been formed on a piece of land without official permission or approval, is inadequately serviced, with limited physical and social infrastructure acquired through informal arrangements made by residents or with the intervention of the local government.

2.2.2 Informal Settlement Debates

The proliferation of informal settlements has overtaken formal housing developments, resulting in the majority of the population in developing countries residing in informal settlements (Huchzermeyer, 2006). Various studies indicate that informality or illegality are ways that allow the poor to become urban residents, since there is a backlog of formal low-income housing or social housing in the global south (Caldeira, 2017).

2.2.2.1 The genesis of urban informality

The major issue with informality is that of wealth distribution and property markets in cities that influence affordability (Roy, 2005). It can be argued that informality is shaped by the state and dealing with informality requires the confrontation of how the tools of planning create the unplanned and unplannable. Informality, on the surface, is often considered as a land use issue and is managed to restore order to the urban landscape. Formal urban planning standards and regulations have been found to be inadequate to meet challenges arising from rapid urbanisation and affordable housing (Fekade, 2000). Moreover, low-income households have been bypassing these standards and regulations through improvising and creating informal structures as well as institutions in order to solve their housing issues (Fekade, 2000). Fekade (2000) argues that current land-use control and regulations in African cities are inflexible and over-detailed, consequently becoming part of the problem and not the solution.

2.2.2.2 Concepts interlinked with Informal Settlements

The concept of peripheral urbanisation, discussed in Caldeira (2017), is useful for this research because it unpacks processes of socio-spatial formation which includes informal settlements. Peripheral urbanisation refers to ways of producing space in any part of the world, particularly in cities of the south, regardless of their varied histories of urbanisation (Caldeira, 2017). These spaces function with a particular "temporality and agency" in addition to creating "unequal and heterogeneous cities" (Caldeira, 2017:3). Informal settlements are predominantly informally organised and incrementally transformed often without any means of state control (Kamalipour, 2016). Caldeira (2017) argues that residents are the executors of urbanisation as they construct their houses incrementally, according to their available resources. She calls this process "auto-construction". Cities which go through peripheral urbanisation contain spatial and social inequalities which cannot be explained in terms of "regulated versus unregulated, legal residents versus slums, formal versus informal". This is so because these categories are always shifting (Caldeira, 2017: 7) and this shift often results from scholarly debates, politics and changing development policies (McFarlane, 2012).

2.2.2.3 Informal Settlements as a Global Phenomenon

Informal settlements are a recognised issue globally and discussed in various international housing documents, such as the "Habitat Agenda (1996), Declaration on Cities and Other Human Settlements in the New Millennium (2001), European Social Charter, revised (1996), the Vienna Declaration on National and Regional Policy Programmes regarding Informal Settlements in South Eastern Europe (2004), Millennium Development Goals" (Suditu & Vâlceanu, 2013: 65). These European documents indicate that informal settlements are not only a global south issue and that they should be prioritised. They advocate for housing policies to regularise these settlements and improve their living conditions (Suditu & Vâlceanu, 2013). They also discuss the decentralisation of land, protection against forced evictions and incremental approaches towards tenure security which indicate that informal settlements are a global challenge.

Compared to the industrialised and industrialising countries, South Africa has high numbers of poor people living in shacks. This raises questions in terms of the relationship between homelessness and housing provision (Cross, Seager, Erasmus, Ward & O'Donovan, 2010) but, although informal settlements are within the category of homelessness, they are not the same as street homelessness. These two types of homelessness have different characteristics with regards to livelihoods or housing options and are in opposite circumstances (Cross et al., 2010). In contrast to South Africa, homelessness in the US and Europe is not necessarily due to pre-existing poverty but "is often due to economic or social displacements and downward mobility" (Cross et al., 2010: 16). In addition, almost all housing

in the US and Europe is formal because self-help housing is prohibited, particularly the building of squatter camps for residential purposes within the cities (Cross et al., 2010).

For that reason, with the exception of squatting in abandoned buildings, industrialised countries have informal settlements only as an immediate shelter alternative for the poor (Cross et al., 2010). Ward and Peters (2007: 207) indicate that "in Texas alone there are estimated to be over 400,000 people living in some 1600 or more colonias". Colonias are low-income housing settlements that are characterised by sub-standard housing conditions (Ward & Peters, 2007). They are legally developed lots that have "been sold by developers upon which residents place trailers, construct manufactured homes, or self-build" (Ward & Carew, 2000: 323). Ward, De Souza and Giusti (2004) argue that, while Colonias are informal and hazardous, they provide poor households with an opportunity for home-ownership within poverty-stricken circumstances that relate to low income economies, with no access to formal lending institutions.

The formation and development of informal settlements in former communist countries is associated with urbanisation that occurred between 1960 and 1970, as well as the flow of immigrants and refugees in the 90s (Suditu & Vâlceanu, 2013). However, the areas with informal settlements are an outcome of ill-fitting regional planning, poor legislation and inadequate housing policies that have not provided affordable housing (Suditu & Vâlceanu, 2013). Huchzermeyer (2006) argues that informal settlements are a shameful attribute of poverty and inherited inequalities in South Africa. The main issue facing informal settlements is poverty and vulnerability (Huchzermeyer, 2006). In these settlements, poverty is above unemployment; it is characterised by deteriorating health and nutritional rates, "overcrowded housing, increased school dropout levels and increased stress upon physical and social environments of low-income urban residents" (Tshikotshi, 2009: 2). Informal settlements are generally situated in places of low environmental quality and are characterised by inadequate dwelling units in addition to a lack of basic services or infrastructure (Wekesa et al., 2011).

2.2.2.4 The impacts of Living in Informal Settlements

Turok (2015) argues that informal settlement residents undergo hardships in addition to hazards from living in squalid conditions however; they tolerate these conditions in order to escape poverty through economic opportunities. These residents employ informality as an instrument for adaptation. Turok (2015) is of the opinion that, through informality, these people are able to access the benefits of living in cities, as well as access to urban land that is close to employment or livelihood opportunities (Weakley, 2014). A livelihood is the ability to support one's existence financially or by means of acquiring basic amenities, specifically food and

shelter. In addition, “a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living” (Huchzermeyer, 2006: 104). A sustainable livelihood is able to deal with and recover from shocks and stresses while maintaining and enhancing its competences and assets (Huchzermeyer, 2006).

Health concerns in informal settlements are mostly linked to poverty realities, such as poor sanitation and the lack of disposal of waste. Transmittable diseases, such as HIV, increase in areas of socio-economic vulnerability, consequently elevating the impact of AIDS particularly for women who are the most vulnerable (Huchzermeyer, 2006). Vearey (2011) argues that the highest HIV recordings in South Africa are found within informal settlements. The Council for Scientific and Industrial Research (CSIR) established that “informal settlements often lack basic service provisions and vulnerable groups such as children, women, people with disabilities and people infected and affected by HIV/AIDS often bear the brunt of this lack” (CSIR, 2006: 7 cited in Meth, 2013: 540).

The debates discussed above indicate that informal settlements are a global issue and that there are contradictions between regulatory frameworks and implementation. Informal settlements are, among other things, an outcome of inadequate housing policies. Furthermore, informality is employed as a mechanism for adaptation because it allows the poor to gain access to the benefits of living in cities, as well as having access to urban land that is at closer to employment or livelihood opportunities. Security of tenure is a central component of the right to adequate housing.

2.3 Tenure systems

Land tenure is defined as a system *“*by which land is held or owned, or the set of relationships among people concerning land or its product*”* and deals with rights to land or property in addition to access, use, development or transfer (Payne, 2001: 416). Complications often arise because there are various legislation systems pertaining to land as well as different types of tenure which operate simultaneously in a country or in a city (Payne, 2001). In 1999, the UN-Habitat reinforced the link between tenure security and poverty alleviation (Payne, Durand-Lasserve & Rakodi, 2009). However, other international institutions, such as the World Bank, were aware of the importance of tenure security before 1999 consequently promoting land titling programmes to protect property rights and secure investments (Payne et al., 2009).

Payne et al. (2009: 447) argue that “tenure security is not just a matter of legal or illegal, formal or informal status; ‘security’ is a relative concept and a matter of perception as well as law”. Payne (2001) adds that this is because there are categories within housing or land markets that contain varying degrees of legality or illegality. These include “regularised and un-

regularised squatting, unauthorised sub-divisions on legally owned land and various forms of unofficial rental arrangements" (Payne, 2001: 417).

Most of the squatting in South Africa emerged as a response to the state's inability to meet the housing demand. However, these informal tenure categories have also become commercialised to limit access for low income groups (Payne, 2001). Land tenure systems in developing countries are under pressure because of rapid urbanisation that results in competition for secure or serviced land and this requires the state to develop policies that encourage efficient land use while improving accessibility for the poor (Payne, 2001).

There are no standards by which security of tenure can be defined because the perceived security of tenure for residents who have lived in an informal settlement for many years is no different from residents who live in formal housing (Payne, 2001). It is therefore necessary to differentiate between "de facto" and "de jure" tenure status and a full understanding is only achievable through participatory planning (Payne, 2001). This can explain the informal ways of acquiring tenure in informal settlements, thus differentiating between the way land is held (or owned informally) and the possession of a legitimate title deed.

Developing countries need successful land management policies however, one of the issues that prevent a successful policy on urban land management in African cities is the lack of ownership of affordable, well located land by the state and the lack of collaboration between the formal and informal land markets (World Bank, 1993). There are also restrictive regulations that increase land or housing prices. This is not unique to African cities, "in Thailand, for example, where regulation is simple and efficient, housing supply is more than 30 times as responsive to shifts in demand than either the Republic of Korea or Malaysia, where regulation is complicated and cumbersome" (World Bank, 1993: 3)

Payne et al. (2009: 447-450) investigated the impact of tenure security. Below are key findings from their South African case studies:

- "There is a range of other tenure options that exist in low-income communities but that pass unrecognized by current policy".
- "There is a perception that titling and title deeds bring with them an improved quality of life, possibly because it also involves the provision of services."

From the above discussion, it is evident that the possession of tenure determines the resources people can use, for how long, and under what conditions. Below is a reflection around lived experiences in informal settlements found in various studies.

2.4 Lived Experiences in Informal Settlements

Multiple studies around life in informal settlements indicate that women and children are the most vulnerable. Meth (2013) examined parental anxieties about living in informal settlements, arguing that anxiety results from the widely recognised issues of informal settlements in addition to the risks they pose to their children. Meth (2013) refers to issues that include inadequate access to safe water, poor sanitation, overcrowding, violence, high crime rates, high rates of child mortality, risk of accidents and exposure to fire caused by poor structural quality of housing. Meth (2013: 238) argues that informal settlements "are not ideal places for children to grow up in". The study found that the most concerning issue about raising children in an informal settlement is around safety as children become victims of illegal electricity connections as they play with exposed wires (Meth, 2013).

Social issues in informal settlements affect the residents as they become fearful, particularly at night, due to the lack of policing, essential services and infrastructure that increase the risk of victimisation (Shaw et al., 2001 cited in Richards et al., 2007). Informal settlements contain high levels of violence in addition to ill-health. Gibbs, Sikweyiya and Jewkes (2014) argue that the experiences of residing in overcrowded or high-density environments lead to stress and the inability to control aspects of life. Pillay (2004) conducted a study in an informal settlement in Lenasia which demonstrated that learners in informal settlements are faced with many challenges that impact their experiences at school. The grade 8 learners interviewed indicated that they find it difficult to do their school work because of inadequate facilities, household chores and overcrowding (Pillay, 2004). In addition, the lack of electricity is problematic as parents often do not have money to buy candles. They also do not have water: "Sometimes we don't have water to wash our school clothes", "we come with dirty clothes to school" and "I feel bad, the other children say we smell." (Pillay, 2004: 8).

Harte, Childs, and Hastings (2009) argue that social networks in informal settlements build community resilience. A study conducted in one of the informal settlements that caught fire in 2004 in the Western Cape shows that social networks are helpful especially in times of need. The study indicates that, subsequent to the fire, the residents depended on each other for support:

> "An unemployed single mother of three sent her youngest child to be cared for by extended family in the Western Cape after the fire. The two older children were given school uniforms by community members so that they could continue to attend classes at a local Hout Bay school. The respondent and her children stayed with her cousin's family on the night of the fire; they moved into a friend's shack two weeks later. The friend and the respondent, from the same home village in the Eastern Cape, shared the responsibility of caring for the

> children. The friend was employed as a domestic worker in Hout Bay; she was able to assist the family with clothes and food given to her by her employer. The respondent also received some financial assistance from her cousin" (Harte et al., 2009: 150).

The lived experiences in this section ignore the positive aspects that informal settlements present for their residents, such as "low housing costs and proximity to work opportunities" (Weakley, 2014: 66). Informal settlements are a common challenge globally and this has resulted research being conducted to develop sustainable interventions. The following section outlines the different interventions that have been developed.

2.5 Informal Settlement Interventions

Informal settlements obtained national attention in South Africa in 2003 under the third Housing Minister, Bridget Mbandla (Huchzermeyer, 2006). The Department of Housing placed informal settlements on the national agenda, consequently acknowledging that

> "these settlements are products of failed policies, ineffective governance, corruption, inappropriate regulation, exclusionary urban (economic) development/ growth paths, poor urban management strategies, dysfunctional and inequitable land markets, discriminatory financial systems, and a profound democratic deficit" (Mbandla, 2004b: 1 cited in Huchzermeyer, 2006: 43).

Since then, the government has attempted to address the issues around informal settlements through the provision of subsidised housing and the upgrading of informal settlements. However, Charlton (2006) indicates that there was also informal settlement upgrading in the 1990s and post-1994. One of the informal settlement interventions in South Africa is structured around a capital subsidy scheme that started in 1994. Before 1994 (specifically in the early 1990s), the shortage of housing in South Africa was addressed through "site-and-service" projects however democracy resulted in the formation of the National Housing Subsidy System that allowed for an addition of a basic unit (Cirolia, 2017). This once-off capital subsidy is used by the state to deliver freehold ownership of houses on serviced sites to address housing delivery backlogs on a large scale (Charlton, 2009). The subsidy often involves relocating informal settlement residents to peripheral land where they receive a house with freehold tenure (Huchzermeyer, 2003). The subsidy scheme was developed through the RDP. However, there were multiple concerns about the RDP which led to a policy shift in 2004 that introduced "Breaking New Grounds (BNG): A Comprehensive Plan for The Development of Sustainable Human Settlements".

The refinement of the National Housing Policy resulted in the BNG initiating various "new areas of focus to the housing programme" (Charlton, 2009: 308) that incorporated an Informal

Settlement Upgrading Programme with a dedicated subsidy mechanism (Huchzermeyer, 2006). The Informal Settlement Upgrading Programme enables in-situ upgrading of informal settlements achievable “with minimal disruption to residents' lives” (Huchzermeyer, 2009: 59). Some of the in-situ interventions include the provision of “interim basic services”. These include the provision of water through communal taps, interval waste collection and sanitation through communal ablution/toilet facilities such as the Ventilated Improved Pit Latrine toilet (Misselhorn, 2010; Crous, 2014 cited in Adegun, 2016).

Cirolia (2017) unpacks the four competing dialogues on the upgrading of informal settlements in South Africa: technological and design discourses, institutional discourses, rights-based discourses and structural discourses. Cirolia (2017) argues that interventions related to technology and design begin with challenges related to floods, fires and high densities. The attention given to this discourse means that it is receiving qualified skills from “engineers, industrial designers, architects, urban designers and city planners” (Cirolia, 2017). The experts mentioned above are working towards making the housing structures in informal settlements sustainable. Some of the interventions include “The Butterfly House (Elemental Housing Solutions), the Empowershack (Ikhayalami and ETH), the GreenShack (Touching the Earth Lightly) and the I-Shack (University of Stellenbosch)” (Cirolia, 2017: 447). Institutional debates are centred on the drivers of informal settlements in South Africa and what the state can do to address the current capacity constraints in the upgrading of these settlements (Cirolia, 2017). Informal settlement debates in South Africa are frequently positioned around constitutional rights to housing (Cirolia, 2017). However, the right to housing is linked to other rights related to participation, the prevention of illegal evictions and service provision which have resulted in various litigation issues (Cirolia, 2017). Currently, the local government, along with various social movements, is advocating for the poor in an attempt to fight capitalist ideologies (Cirolia, 2017).

Internationally, informal settlements offer distinctive challenges to their governments and many of these settlements start as squatter camps and refuse to accept evictions (Huchzermeyer, 2004). In addressing this issue, Brazil has developed legislation to accelerate the process of long-term tenure provision with the intention of allowing faster upgrading (Huchzermeyer, 2004). Huchzermeyer (2002: 85) indicates that “in Brazilian, approximately 20 percent of the population in cities such as São Paulo and Belo Horizonte, are housed in favelas (Taschner, 1997), with higher figures for the poorer cities in the north (Maricato, 2000)”.

Favelas are an equivalent accommodation to informal settlements in South Africa. They both draw attention to poverty (Huchzermeyer, 2002). According to the Vienna Declaration,

sustainable urban management requires informal settlements to be integrated to the social, economic, legal and spatial network. This is so because the success of the legalising efforts contributes to the longstanding economic growth and social equity, cohesion and stability (Suditu & Vâlceanu, 2013).

The section above has indicated that interventions in informal settlements have been through the provision of subsidised housing and the upgrading of informal settlements. The section has also discussed how the BNG housing policy prioritised informal settlements through the shift towards in-situ upgrading. Interventions such as relocations, the provision of emergency services (or basic services), tenure programmes and full upgrading is discussed later in this chapter in relation to the intervention implemented in Waterworks informal settlement.

2.5.1 Informal settlement upgrading policies in South Africa

The upgrading of informal settlements is not a recent initiative. From the 1950s, countries such as Peru, Indonesia, India and Turkey adopted this approach in order to tackle the issues of informal urbanisation (Khalifa, 2015). In South Africa, during the mid-1980s, the policy focusing on informal settlements prioritised eradication along with limited upgrading (Marais & Ntema, 2013). In addition, the policy of orderly urbanisation was introduced as an alternative for influx control in 1985 and this resulted in land only being available to the middle-income groups and not low-income groups (Marais & Ntema, 2013). However, land was occasionally available for informal settlement upgrading through the National Housing Commission (Marais & Ntema, 2013). By the 1990s, a large number of people from low income groups started invading open land across the country and this was followed by the formation of the Independent Development Trust (IDT). The IDT was initiated as the first large scale informal settlement upgrading programme in South Africa (Marais & Ntema, 2013). Marais and Ntema (2013: 86) indicate that

> "the IDT used a capital subsidy of R7500 per household to provide water, sanitation, electricity and formal ownership. In the process, approximately 100 000 households in informal settlements were provided with housing opportunities through site-and-services and settlement upgrading".

Huchzermeyer (2004) argues that the IDT projects displayed neoliberal ideologies with limited community participation and one-size-fits-all interventions. Marais and Ntema (2013) argue that informal settlement upgrading policies were not originally developed for the post-apartheid government as the post-apartheid housing policy introduced in 1994 (see Department of Housing, 1994) assumed that the housing subsidy scheme would deal with residents in informal settlements automatically (Department of Housing, 1994). In other words, during that

time, the policy was a continuation of the IDT agenda, and included a “once-off subsidy of R15 000 for the lowest income earners within the then current macro-economic limitations” (Marais & Ntema, 2013: 86). However, there was informal settlement upgrading (i.e. in-situ upgrading) during this post 1994 period (Charlton, 2006).

In 2004, various political dynamics along with policy shifts led to the development of the “Breaking New Ground”: A comprehensive plan for the development of informal settlements (Huchzermeyer, 2006). The development of an informal settlement upgrading programme in South Africa was influenced by the Millennium Development Goals as well as other international declarations which emphasised poverty alleviation (Huchzermeyer, 2006). Breaking New Ground, together with its supplementary Informal Settlements Upgrading Programme, calls attention to “poverty eradication, reduction of vulnerability and promotion of social inclusion” (Marais & Ntema, 2013: 87). These three goals were intended to be achieved through rehabilitating land for upgrading as opposed to greenfield developments; tenure security; ensuring adequate access to social and economic amenities along with interim services (water and sanitation); and social inclusion through participatory layout planning (Huchzermeyer, 2006).

2.5.2 The new approach towards upgrading informal settlements

Housing departments (national, provincial and local) have recognised the need for a different approach in addressing the challenge of informal settlements in South Africa after seeing that the provision of subsidised housing is unsustainable for various reasons, such as relocations (HDA, 2014). The HDA indicates that, in previous years, most settlements did not receive adequate short-term assistance from the government along with investment and this was exacerbated by “delayed housing delivery intentions” due to a lack of land or insufficient budget and “problematic relocations intentions” which have unintended impacts on livelihoods (HDA, 2014: 5). In addition, the HDA (2014: 5) argues that “the shift is towards a more rapid, participative and broad-based response led in most instances by the provision of basic services to informal settlements (in-situ) along with basic, functional tenure”.

The provision of low-income housing will only constitute a small part of the informal settlement response due to the slow time frames coupled with high costs, thus the new upgrading approach is incremental and infrastructure-led (HDA, 2014). As the intention is to prioritise interim services and include all informal settlements in the government's service delivery programmes, formalisation may not be possible.

The National Upgrading Support Programme (NUSP) advocates for change in the mind-set

and attitudes towards informality and it promotes incremental upgrading as a major complementary housing programme. The NUSP has been approved by the National Department of Human Settlement (NDHS) and

> "is included in the department's medium term strategic plan, and was included as a particular item in the Performance Agreement between the President and Minister for Human Settlements signed in April 2010, and as a specific output in the Delivery Agreement between the Presidency and the NDHS" (NUSP, 2017).

The NUSP helps municipalities in the development or implementation of upgrading programmes in addition to providing capacity building and training to practitioners and councillors (NUSP, 2017). The NUSP indicates that the in-situ upgrading of any informal settlement is not possible without community participation or community enthusiasm (NUSP, 2017). This is because experience has revealed that, if a community is only informed and not consulted about the municipality's upgrading plans, it will disown the project and will not feel accountable for protecting what is provided (NUSP, 2018). However, if the municipality works with the community in the planning and implementation of the upgrading plans, the residents will accept the Upgrading of Informal Settlements Programme (NUSP, 2018).

The Upgrading of Informal Settlements Programme (UISP) has brought about a shift in the way informal settlements are viewed in South Africa. The UISP was introduced in 2004 as a result of the radical shift in the housing policy however, it draws its policy context from BNG. The UISP supplements existing housing instruments in order to achieve a housing delivery system that is more receptive, flexible and efficient and it identifies housing delivery as a mechanism for the achievement of broader socio-economic goals, together with employment creation and poverty alleviation (Tissington, 2011 cited in Ziblim, Sumeghy & Cartwright, 2013).

The dedication to upgrading informal settlements through the UISP has support from the following departments, agencies and legislation:

- HDA
- National Planning Commission (Presidency)
- Medium-Term Strategic Framework (targets for 2019) (Presidency)
- Spatial Planning and Land Use Management Act no 16 of 2013 (SPLUMA) (Department of Land Affairs and Rural Development).

(NUSP Resource Kit, 2017: 26).

The UISP therefore

> "offers grants to accredited municipalities to undertake sustainable housing development projects aimed at improving the conditions of slum communities and the main idea of the programme is to facilitate a phased in-situ upgrading of informal settlements as against the relocation of slum dwellers to Greenfields" (Ziblim et al., 2013: 25).

The NUSP indicates that informal settlement upgrading is a "statutory obligation" for municipalities and is a fundamental element to any municipality's housing strategy thus "it should not be treated as optional" (NUSP Resource Kit, 2015: 2).

The UISP has four implementation phases which focus on community participation, supply of basic services, housing security and housing consolidation (funded by other national housing programmes) (Ziblim et al., 2013). This phased programme was developed with an understanding that residents of informal settlements do not have anywhere else to go and that which is identified as informal or unplanned are their homes and should be improved (NUSP Resource Kit, 2015). Additionally, the UISP is more significant than greenfield housing projects because it incrementally improves what the residents have already built themselves rather than relocating them to houses that are far away from economic opportunities (NUSP Resource Kit, 2015). These greenfield developments "are often purely residential and become poverty traps as a result of the distance to potential places of work and the absence of any economic infrastructure within the settlements" (NUSP Resource Kit, 2015: 25). Furthermore, the key objectives of the UISP are to assist informal settlement residents to accomplish security of tenure, health and safety, while empowering them through participation and addressing social or economic exclusion (Department of Human Settlements, 2009).

The UISP provides municipalities with grants for the execution of in-situ upgrading programmes. The grant or funding must be applied for at the Provincial Department of Housing and the department has to act as the implementer if the municipality is unable to. The figure below summarises the implementation procedure of an in-situ upgrading programme

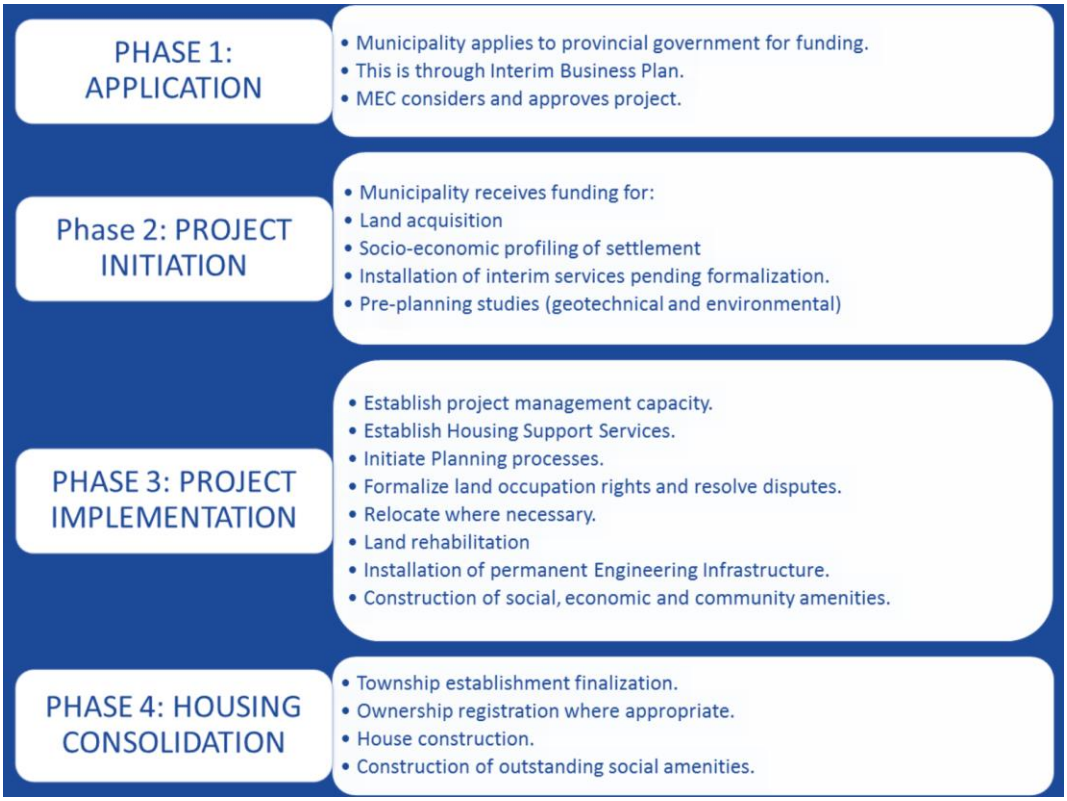


Figure 2.1: The implementation procedure of an in-situ upgrading programme
Source: Department of Human Settlements (2009c) in Maina (2013)

2.5.2.1 Power relations

There is no doubt that South African housing policies are progressive and they theoretically address the core issues facing housing challenges in the country (i.e. informal settlements, among others). However, the predominant question which remains unanswered is about who makes decisions concerning the future of settlements and who has the power to do so in reality despite what is said about participation and residents being "partners in the upgrading process and stakeholders in the town or city" (NUSP Resource Kit, 2015: 2).

The concept of power is often overlooked in informal settlement debates although it is a significant dimension of poverty particularly relating to "the determination of local political and bureaucratic agendas" (Lombard, 2014: 12). Power issues between the informal settlement communities and the state are related to the authority of determining place meaning and appropriate behaviour in these places, which may replicate processes of marginalisation by existing power structures (Lombard, 2014).

Approaches, such as the UISP, have been developed to facilitate the in-situ upgrading of informal settlements in place of relocation. In addition, the National Housing Code (2009: 16) indicates that the programme "includes the possible relocation and resettlement of people on

a voluntary and co-operative basis as may be appropriate". However, the numerous protests in various informal settlements related to relocations shows that there is a significant disjuncture between what has been promised on policy and that which is implemented in practice. These protests are a sign of the broken promises, in addition to neglected Constitutional obligations in municipalities which have caused numerous informal settlements to be in a state of complete desperation (NUSP Resource Kit, 2015).

The beneficiary communities are treated as passive recipients with no control over the decision-making process and, although participatory planning is advocated in policy, it does not mean that the involved stakeholders or the civil society's insights and contributions will be considered because the government (with the private sector developers in some cases) still has the authority in deciding what ought to happen in these settlements (Combrinck, Vosloo & Osman, 2017). Mutisya and Yarime (2011: 201) argue that "the experience of slum-dwellers starkly illustrates that people living in poverty not only face deprivation but are also trapped in poverty because they are excluded from the rest of the society, denied a say, and threatened with violence and insecurity."

2.6 The Characterisation of Informal Settlements

Physical characteristics of informal settlements differ extensively depending on the income levels of the occupants (Wekesa et al., 2011). Informal settlements vary in size, location, tenure type, physical form, physical layout and the design of the dwellings (Huchzermeyer, 2006). There are various ways of developing informal settlements typologies and these are based on the proximity to employment opportunities, settlement location, formal or informal conditions and the processes of growth (Kamalipour, 2016), their historical development, systems of land tenure, age and density (Hindson & McCarthy, 1994).

2.6.1 Settlement location

There are three types of informal settlements that are characterised by location. These are Inner-city informal settlements, peri-urban informal settlements and peripheral informal settlements. Peri-urban informal settlements are those settlements that are located on the edges of established cities not far from the city centres, basically in a transitional zone between fully urbanised and rural agricultural land (Davis, 2006). Similar to Davis's (2008) discussion of typologies, Du Plessis and Landman (2002) unpack the location typology of informal settlements, namely, core informal settlements, fringe informal settlements, peri-urban informal settlements and informal settlements in commercial farming areas. Core informal settlements are unplanned settlements within the inner city or close to the central business district or areas of employment, for example, "parts of Alexandra in Johannesburg, parts of

Cato Manor in Durban and Duncan Village in East London" (Du Plessis & Landman, 2002: 21).

Fringe/peripheral informal settlements are unplanned settlements located far from the central business district and far from areas of employment which results in extensive commuting patterns, for example, Inanda in Durban, Crossroads in Cape Town and parts of Ivory Park in Midrand (Du Plessis & Landman, 2002). Peri-urban informal settlements are dense unplanned settlements located far from the nearest cities or towns, for example, Loskop in KwaZulu-Natal and parts of Botshabelo in the Free State (Du Plessis & Landman, 2002).

In countries such as China, Indonesia and across Latin America, these sprawling settlements accommodate not only migrants coming into the city, but the low income groups that are pushed out of the cities by evictions or rising rental prices (Davis, 2008). Huchzermeyer, Karam and Maina (2014: 160) conducted research around informal settlements which indicates that informal settlements in Johannesburg are "concentrated in an arc along the city's western periphery".

The concept of an urban periphery naturally brings to mind a sense of "distance, disconnectedness and desolation" (Pieterse, 2018: 1). It is

> "a semi-rural wasteland along the urban boundary located neither fully inside nor fully outside of it, a place of deprivation, where few live by choice and where the spoils of the city are tantalisingly within view but frustratingly out of reach" (Pieterse, 2018: 2).

Although it is not clear how this differs from peri-urban, peripheries are also spaces characterised by environmental challenges (Aguilar, 2008), uneven developments and are economically, socially, demographically, politically and/or culturally marginal in relation to core areas (Peberdy, Harrison & Dinath, 2017). Caldeira (2017) uses "peripheries" as a term for informal settlements and explains that, although these areas are significantly improvised, this does not imply that they are chaotic or illegal and unregulated.

> "Peripheral urbanization does not mean an absence of the state or planning, but rather a process in which citizens and governments interact in complex ways. While residents are the main agents of the production of space, the state is present in numerous ways: it regulates, legislates, writes plans, provides infrastructure, polices, and upgrades spaces. Quite frequently, though, the state acts after the fact to modify spaces that are already built and inhabited" (Caldeira, 2017: 7).

This demonstrates the nature of informal settlements in South Africa and the process in which they have been functioning with and without the government.

Peberdy et al. (2017) point out that the demographic index constructed in the Gauteng City Region demonstrates that peripheral areas are most likely to be home to vulnerable households and populations. Peripheral areas usually have undeveloped infrastructure, lower education levels and higher unemployment than those residing in the core (Peberdy et al., 2017) because

> "the population is more dispersed or has lower population densities than in the core. However, as apartheid spatial settlement patterns persist in South Africa, densely populated areas can be found in the periphery and low-density settlements in the core. The quality of life of people living in peripheral areas is usually considered to be lower than that of people living in core areas" (Du Plessis & Landman, 2002).

Most informal settlements in Johannesburg reflect a sense of orderliness revealed through formal patterns or layouts (Huchzermeyer & Maina, 2014). This adherence to formal layouts indicates that the informal settlement inhabitants expect in-situ upgrading to materialise (Huchzermeyer & Maina, 2014). In addition, "it is settlements that occupy small open spaces in formal areas that have reached the extreme densities that are characteristic of many informal settlements, for instance in Cape Town – cars generally cannot enter these settlements" (Huchzermeyer & Maina, 2014: 164). The analysis in Huchzermeyer and Maina's (2014) research indicates that 81 informal settlements in Johannesburg have ordered layouts while only 45 settlements have denser and haphazard layouts (Huchzermeyer & Maina, 2014). There are informal settlements concentrated along railways in Soweto however, this trend has been evident in "the east-west axis of Johannesburg to the north of the mining belt" (Huchzermeyer & Maina, 2014: 164).

2.6.2 Informal settlement typologies

The African and Asian continents are urbanising rapidly without adequate housing and urban infrastructure to support the teeming population. Particularly in African cities and developing countries, the inability to manage the corresponding population growth has fostered issues of exclusion and segregation in housing provisions giving rise to all forms of slum and housing typologies. Smit et al. (2017) indicate that South Africa's inherited spatial planning was driven by segregation and injustices from the apartheid era and this has shaped the emergence of informal settlements therefore, it is argued that informal settlements are formed by the state itself and are not the object of state regulation (Smit et al., 2017).

Urban planning in the apartheid era was associated with social engineering policies which has given rise to the following settlement typologies:

- Township, Location, RDP neighbourhood
- Housing-turned-slum
- Squatter Camps
- Site and Service informal settlements
- Transit Camps
- Hybrid, multi-structured settlements (Smit et al., 2017: 111).

In a study conducted in Romania concerning the characterisation of informal settlements and the establishment of typologies, Suditu and Vâlceanu (2013: 71) identified the informal settlement typologies in Romania based on "the morphological and spatial characteristics as well as their location in relation to the perimeters of towns that could be built on". Suditu and Vâlceanu (2013) established four informal settlement typology groupings:

- Newly built settlements that are located in or outside the city as a result of urban sprawl. These comprise homes that are constructed with good quality material but are built without permits.
- Improvised dwellings that are constructed without permits in towns along areas that are not zoned for residential and are at a high risk for natural disasters, for example, floods and landslides. These informal settlements house the economically marginalised population.
- Informal settlements that have a group of dwellings that function as a temporary shelter which later becomes permanent.
- Informal settlements that have been formed to house the Roma communities because of forced relocations.

Dovey and King (2011: 17) identified typologies of informal settlements as:

- Districts: Informal settlements that have grown to become mixed-use districts to an extent that they can no longer be considered as encroachment.
- Waterfronts: Informal settlements that are located on inhabitable land (unsafe land that is susceptible to flooding or storms) and is near a water body (a river, lake, etc.).
- Easements: "Major urban infrastructure such as railways, freeways and large power or sewer lines often have easements or buffer zones that become major sites of informal encroachment".
- Adherences: Informal settlements that are formed at a pre-existing formal framework.

- Backstage: These are settlements that are formed through an attachment to or in existing buildings under hidden conditions.
- Enclosures: “[W]here informal settlements are physically contained within a formal shell of a large building, vacant lot or institutional compound. The defining characteristic here is that the formal boundary sets a limit to the extension (and often the visibility) of the informal settlement”.

Similarly, many apparently informal settlements, particularly in Johannesburg, appear to have been established by authorities as sites for relocation or site and service schemes, evident, for example, in their geometric arrangement. For example, a settlement may have been started officially as a transit camp, or as a site and service scheme, and subsequently grows through the unauthorised occupation of land on the outskirts of the initial scheme. An example of this is a transit camp set up in Diepsloot in the northern extents of the City of Johannesburg in 1994 (Bénit, 2002). The site, called the “Reception Area”, was intended to be temporary and to house people removed from informal settlements in Alexandra (another part of the city) until formal accommodation could be provided (Bénit, 2002). The Reception Area in Diepsloot is still there today, however, and is listed in the City of Johannesburg's informal settlement data.

This section has discussed informal settlements characterisation and outlined the various ways in which informal settlements are differentiated in literature. The table below provides a summary of this characterisation.

Table 2.1: Summary of characterisation

Characterisation	Authors
Location Inner-city informal settlements, core Peri-urban informal settlements Peripheral informal settlements, fringe	Davis, 2008 Du Plessis and Landman, 2002 Huchzermeyer and Maina , 2014 Pieterse, 2018 Peberdy, Harrison and Dinath, 2017
Settlement typologies Site and Service informal settlements Transient settlements Temporary settlements which later become permanent, Permanent settlements that have grown to an extent that they can no longer be considered as encroachment	 Smit et al., 2017 Dovey and King, 2011 Cross

Source: Own formulation from cited sources

2.7 Conclusion of literature review

This chapter reviewed literature about informal settlements. Although a great deal of literature has been written on the subject, the literature was summarised to ensure that only information relevant to this study is considered. The debates in the literature reviewed the journey of informal settlements, particularly in terms of how they are perceived and how they should be understood.

2.8 Conceptual framework diagram

Drawing on the literature reviewed in the sections above, a conceptual framework is developed in order to demonstrate the relationship between lived experiences, challenges, informal settlement interventions and characterisation of informal settlements to understand informal settlements in South Africa. The literature review shows that the challenges faced in informal settlements influence the lived experiences of residents. The challenges section revealed that life in informal settlements is difficult and often unsafe for the residents. Informal settlements have inadequate access to water, poor sanitation and lack health services. These realities make it difficult to maintain good hygiene standards thus contributing to parental anxieties because parents cannot manage basic hygiene or ensure that their children are healthy. In addition, the lack of bulk services, such as street lights, in informal settlements contribute to stress, violence, crime and safety concerns, often rendering women and children vulnerable. Although, there are negative impacts of living in informal settlements, there are

also positive aspects related to flexibility and locational advantages.

The characterisation of informal settlements and interventions are connected because interventions implemented in informal settlements are guided by the nature of a specific settlement, for example, some settlements require relocation while others require in-situ upgrading.

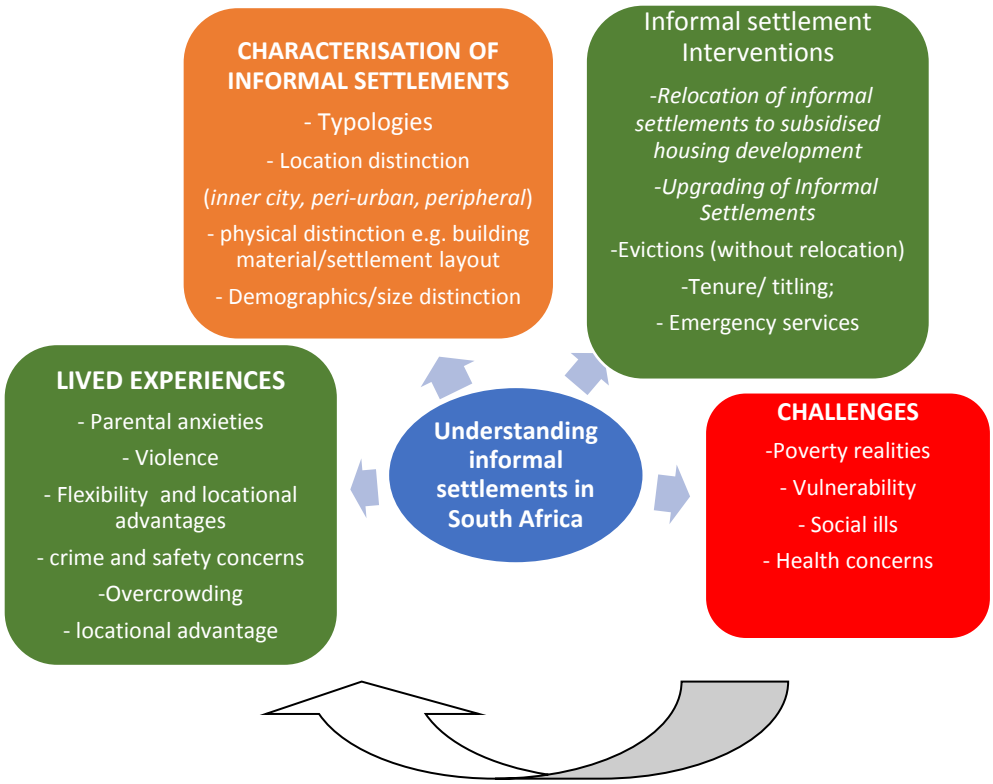


Figure 2.2: Understanding informal settlements in South Africa: The Waterworks informal settlement profile and responses

CHAPTER 3: ARTICULATING THE RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to explain how the research was accomplished, the nature of the data used and how data were collected, organised and analysed. It will also reveal who was interviewed and how they were selected, what they were told about their participation and the steps that were taken to protect them.

3.2 Qualitative Research Method

The study used a qualitative research method that involved a case study of the Waterworks informal settlement in order to contribute to the understanding of informal settlements in South Africa. This research method was complemented by an existing survey, diaries and interviews of the people who live in the Waterworks informal settlement gathered through the *Living the Urban Periphery* project. The project sent scholars into the settlement who handed out diaries in which the residents could write their experiences daily for a week. Subsequently, the diaries were collected and one-on-one interviews with the residents as well as a discussion around their diary entries were held. In addition to this qualitative research method, surveys were done that looked at the demographics of the residents and other aspects, such as their length of stay in the settlement.

3.2.1 Interviews

The researcher conducted open-ended interviews to build on the knowledge base above by exploring selected further issues. The interviews were conducted with 15 residents who were randomly selected and were asked to be interviewed in different sections within the settlement. The findings will be referenced using the abbreviation WR (Waterworks Residents) in order to distinguish them from the interviews conducted through the *Living the Urban Periphery* project, abbreviated as LUPWR (Living the Urban Periphery Waterworks Residents). The interviews also included the councillor of the settlement, the Property Developer (2018) of the area and an HDA Official (2018). Initial access to the settlement was gained through visiting the settlement with one of the scholars involved in the *Living the Urban Periphery* project. Through this, the researcher was able to build a relationship with one of the community leaders who assisted her. Open-ended interviews with residents enabled the researcher to develop an understanding of the informal settlement, to acquire information about the residents' lived experiences, the challenges they face, their perceptions about the settlement, the informal settlement's institutions, how these institutions help them and their views of the relocation.

The interviews were centred on a formally structured list of predetermined interview questions (see Annexure D) however other questions came up during the dialogues. The researcher had to translate the majority of the questions to other South African languages, such as Sepedi and isiZulu, as some of the research participants could not understand English properly. The interviews were audio-recorded and later transcribed and translated into English.

3.2.2 Key informants

Taking into consideration the knowledge of the Upgrading of Informal Settlements Programme and the National Upgrading Support Programme, it was important to understand why relocation was chosen as opposed to in-situ upgrading. The researcher interviewed and engaged with the councillor of the settlement and an HDA Official at their offices. The councillor of the settlement explained the rationale for the relocation that enabled the researcher to gain a better understanding of how the municipality had been assisting the settlement. In addition, the HDA Official (2018) explained the character of the settlement and how the agency went about its characterisation and other informal settlements countrywide. The Property Developer (2018) of the area was also interviewed to find out the intentions to develop the land and the future development plans. This was complemented by grey literature in the form of meeting minutes between the municipality and Township Realtors SA (the property developer of the area) concerning Waterworks informal settlement and the development of adjoining land. Furthermore, the study used project reports acquired through Township Realtors SA (Property Developer, 2018) in order to understand why the informal settlement is being relocated. All the above interviews were audio-recorded and later transcribed.

3.3 Research Findings analysis

This section of the research is what Mayson (2014) calls the act of unpacking and pattern searching within information. This action elucidated through qualitative research is said to be continuous and frequentative. Coffey and Atkinson (1996 cited by Mayson, 2014) notes that for a researcher to build a proper sense from the information collected, the analysis of this information should be a pervasive activity throughout the period of conducting the research.

Much of the fieldwork and data collection processes were characterised by data capturing methods, such as audio-recording, note-taking and journaling. The researcher reflected on the data from an early phase until the closing phase of the fieldwork. The actual field findings analysis started with a transcription of all engagements, which the researcher did personally. All the recorded interviews were spoken in local languages that the researcher understands, such as English and isiZulu, Setswana and isiXhosa.

In the quest to make sense of the data both from the transcripts and the notes, the researcher developed a categorising and coding system to tag this information in related themes. The process is synonymous with what Creswell (2003) identifies as coding. The coded themes built through the data collected in the field were used as themes to answer the research questions guiding this study.

3.4 Limitation of the research

The study only focused on one informal settlement without conducting a comparative analysis of other settlements. To this end, there has only been one research study conducted in the settlement, the outcome of which has provided limited information about the nature and character of the settlement. There were no accessible official records or planning information published by the Westonaria Local Municipality in relation to the settlement or household surveys published by Statistics South Africa. For this reason, the study only relied on the unpublished survey conducted in the *Living the Urban Periphery Project*, interviews with the community, the councillor of the settlement and the property developer of the area.

During the course of this study, the researcher was confronted by a number of challenges. They included a shift or re-orientation of the study. When the researcher conducted her first site visit and found that the settlement is being relocated, the study had to shift its focus from investigating the dynamics or elements that are significant in improving the quality of life of residents living in the informal settlement, towards investigating the nature of the settlement, what this suggests for appropriate interventions, and how this compares with actual practice. In addition, most of the residents were either busy or absent from their homes during the day and this made the interview process challenging because the researcher had to walk to different sections of the settlement to look for participants who were willing to be interviewed (with the assistance of one of the community leaders).

3.5 Ethical Considerations

The study followed procedural ethics and ethics in practice. The procedural ethics involved seeking for approval from the relevant committee at the University of the Witwatersrand through an application process and the researcher was granted a clearance certificate (see Annexure A). The ethics in practice guided the researcher in terms of how to interact with participants when conducting interviews during field work. The researcher treated participants with respect while paying attention to her responsibility as a researcher. The participants were issued with an information sheet which introduced the study, explained that their participation would be voluntary, informed them about their rights as well as elements of confidentiality and anonymity. Before each interview commenced, the participants were asked to sign consent

forms for the interviews to be audio-recorded. However, some participants only granted consent verbally as they did not feel comfortable signing documents.

3.6 Conclusion

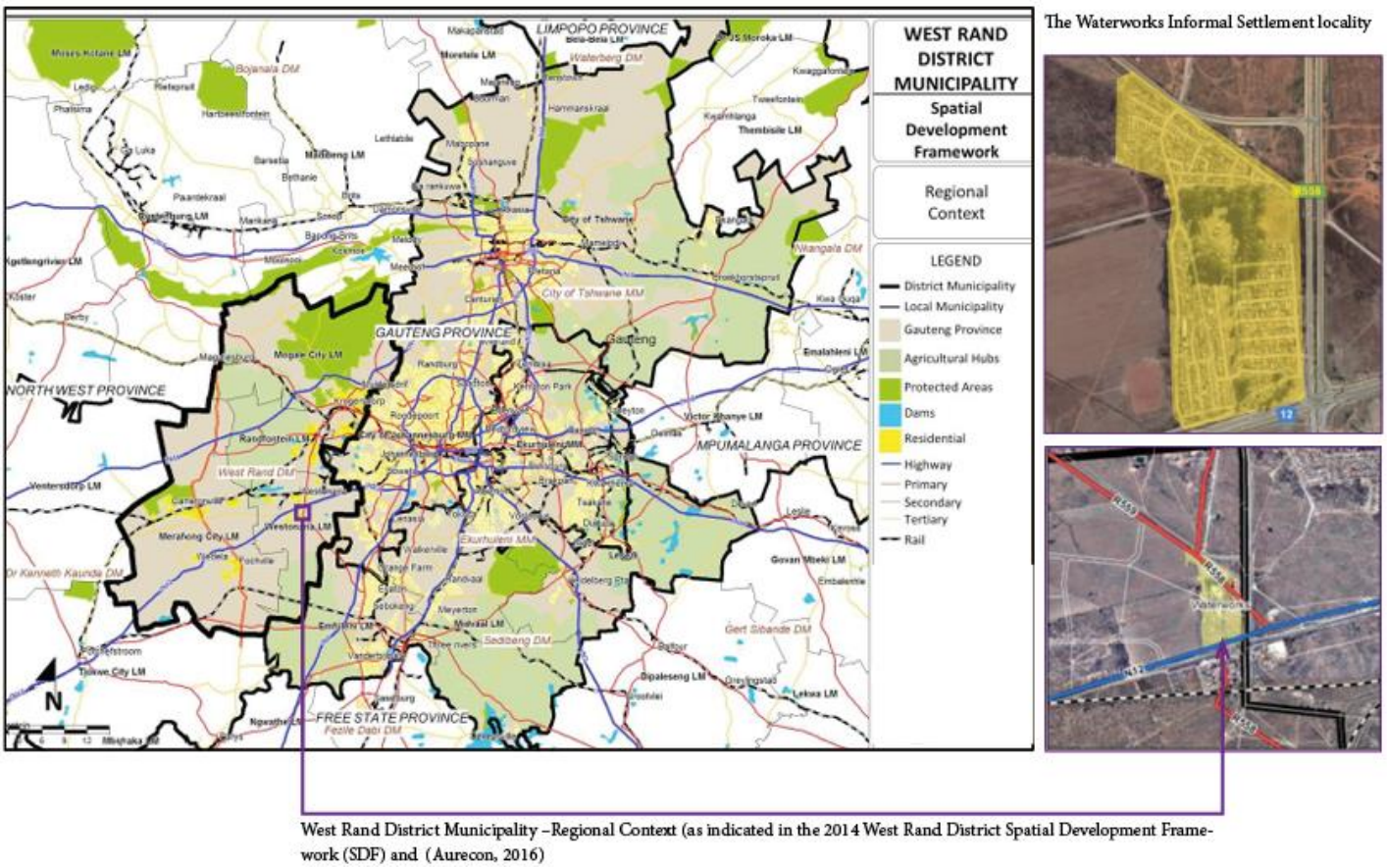
This chapter outlined the research methods used in this study. The study collected data from a range of sources, including the settlement's residents, through direct interviews to understand the informal settlement as well as the residents' lived experiences, among other data.

CHAPTER 4: THE NATURE OF THE WATERWORKS INFORMAL SETTLEMENT

4.1. Introduction

This chapter provides a discussion about the nature of the Waterworks informal settlement, using secondary data and background information that was gathered during the field work. The chapter seeks to understand the characteristics of the settlement and how it came into existence. In addition, it will unpack the future developments in and around the settlement as discussed in the development plans provided to the researcher by Township Realtors SA, currently appointed as the property developer of the area.

The Waterworks informal settlement is 17.6ha and is located in South Africa's Gauteng Province (Johannesburg) at the east of Zuurbekom along the intersection of the K15 and the N12. It is "directly adjacent to the west of the municipal boundary between the city of Johannesburg and the Westonaria local municipality (on the Westonaria side of the border)" (West Rand District Municipality, 2013: 51).



Map 4.1: Contextualising Waterworks within Gauteng
Source: Aurecon, 2016

Westonaria “is currently a NUSP municipality and benefits from the support provided through the programme in respect of technical assistance, networks and forums, policy refinement and tools and information” (Aurecon, 2016: 11). In 2016, the NUSP, in collaboration with the HDA and Aurecon, conducted a profiling study in the settlement which yielded an informal settlement upgrading policy and strategy. However, the profiling was not only focused on the Waterworks informal settlement, it was a “participatory based support for informal settlement upgrading in Randfontein, Merafong and Westonaria Local Municipalities” (Aurecon, 2016: i). This informal settlement policy and upgrading strategy started with a rapid assessment of the informal settlements, with the intention of acquiring an understanding of the scale and nature of the informal settlements within the municipal area (Aurecon, 2016). This assessment is significant to this research because it looked at the prioritised needs and the site constraints within the different informal settlements, including Waterworks. Consequently, this indicated the developmental response for each settlement (Aurecon, 2016).

The rapid assessment study established that the Waterworks informal settlement accommodates 40 dwelling units per hectare (Aurecon, 2016). In addition, the reason for its existence lies in the close proximity of the busy intersection of the N12 National Freeway and the R559 (Aurecon, 2016). The Westonaria Municipality is one of the four municipalities forming the West Rand District Municipality. The District is located on the south-western edge of Gauteng Province and is approximately 50 kilometres from Johannesburg. It consists of a housing backlog of roughly 58,011 units that are in demand because of the mine workers in the area who are mostly migrants (West Rand District SDF, 2014 cited in Aurecon, 2016). Multiple informal settlements have been formed in the district due to the mining and economic activities and the settlements are mostly located at strategic intersections along main routes (West Rand District SDF, 2014 cited in Aurecon, 2016). However, the majority of the land on which these settlements are situated is dolomitic and, according to the HDA, this negatively impacts in-situ upgrading leaving relocation as the appropriate upgrading response (West Rand District SDF, 2014 cited in Aurecon, 2016).

In 2013, the HDA reported that the settlement had 714 households (Aurecon, 2016). However, Township Realtors SA (2018), in partnership with the municipality, conducted another survey in 2018 which found that there were 2600 people living in the settlement. This indicates that the numbers of people coming into the settlement has been increasing. The plot of land on which the Waterworks informal settlement is situated has been earmarked for development since 2017.

The proposed development includes an industrial business park, retail and commercial hubs and a solar farm to service the existing surrounding residential and proposed industrial townships. The property developer of the area indicated in an interview that a variety of consultations and discussions have been undertaken with Township Realtors SA and the municipality, in collaboration with the Gauteng Department of Human Settlements (GDHS) regarding the urgent relocation of the Waterworks informal settlement to the Westonaria Borwa housing development (Township Realtors SA, 2018). The Westonaria Borwa housing project is estimated to produce almost 16 000 housing units in the housing categories below:

- "Subsidised units: The majority of the smaller erven (<300m^2) will be utilised for subsidised housing;
- Bonded & FLISP units: Generally 300m² and larger erven will be utilised for bonded and finance linked housing, in order to provide a suitable mix of housing typologies and products;
- Apartments: The apartments and group housing incorporate a range of solutions to address social housing beneficiaries and private rental clients" (Crimson King Developments, 2018).

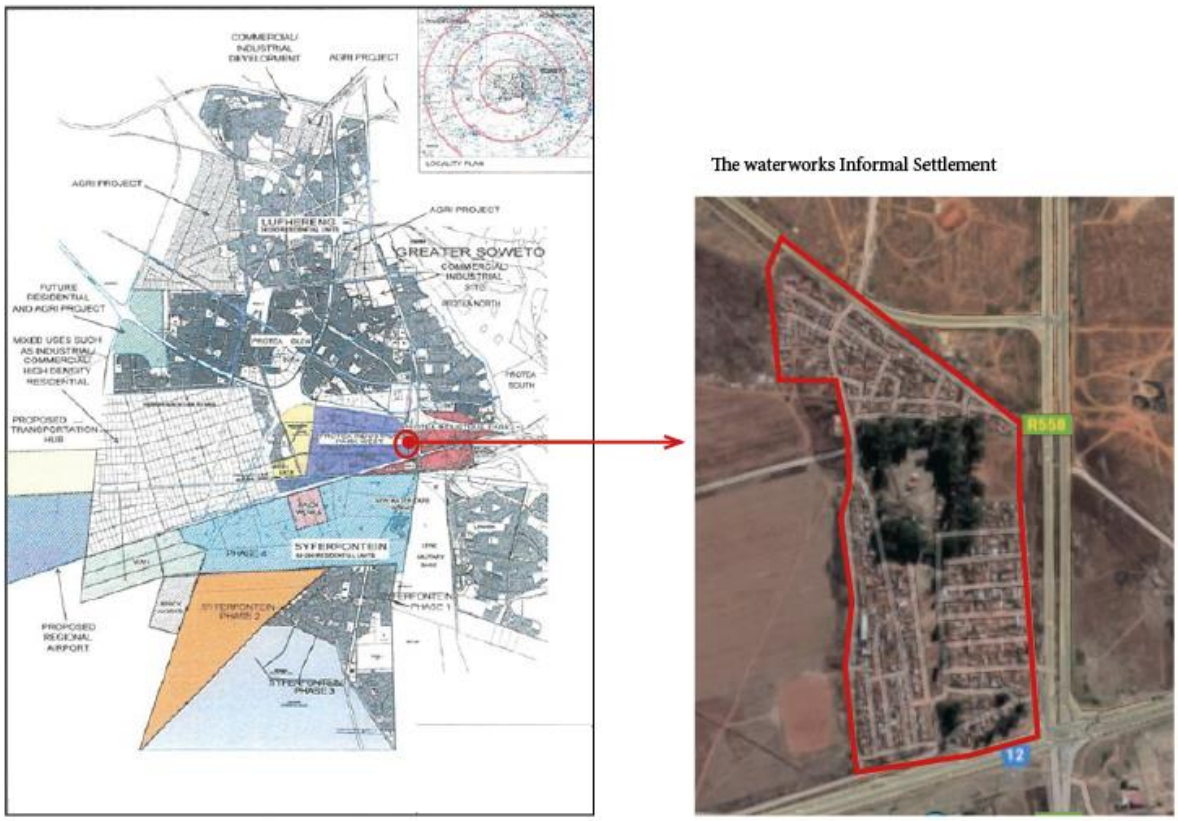
The relocations for qualifying beneficiaries started in 2018 and have been undertaken with groups of 20 to 30 households. Currently, the informal settlement has 335 South African households who qualify for RDP houses, 10 South African households who qualify for FLISP, 17 South African households who are currently renting and 119 foreigners' households who are mostly Lesotho nationals. Therefore, there are 471 households left in the informal settlement after the relocations to Westonaria Borwa and evictions that occurred in the past.

More than 100 households have been provided with RDP houses in Westonaria Borwa housing development since 2018. It was estimated around July 2018 that a group of 84 households were going to be relocated (i.e. to receive RDP houses) from the 2nd December 2018. The underlying issue is that some residents have qualified for RDP houses in their original provinces (e.g. Limpopo) therefore they cannot receive or benefit from new RDP houses in this area.

The Waterworks informal settlement is currently under supervision that ensures that no new shacks are erected. This supervision is done by the developer, Township Realtors SA, in conjunction with the residents. The developer has employed a security company that patrols the settlement in order to prevent further people from erecting shacks. This security company is also assisting with the relocations and the dismantling of shacks.

4.2 Future developments in the settlement

The research found that the Westonaria Local Municipality has approved an industrial township development along the west side of the N12, which will contain 360 hectares of industrial, commercial and business related land uses (Property Developer, 2018). Map 4.2 below shows the developments in Protea Glen and surrounding areas, namely, the Lufhereng 24 000 residential units, Syferfontein phase 2, 3 and 4 development of residential units, a future residential and agri-project, mixed uses, such as industrial/commercial high density residential, the Protea Industrial Park and Protea Industrial Park West to be developed where Waterworks is situated (Township Realtors SA, 2018).



Map 4.2: Protea Glen and surrounding developments
Source: Township Realtors SA, 2018

Map 4.3 below presents “Protea City”, an industrial node to be developed subsequent to the Waterworks informal settlement relocation (Township Realtors SA, 2018). This industrial node will serve a variety of complementing industries – Logistics Centre, Agri processing and light industrial (Township Realtors SA, 2018). Protea City has been designed to promote resource efficiency and improve profitability to create jobs, generate revenue, save money and reduce waste (Township Realtors SA, 2018).



Map 4.3: The earmarked site to develop "Protea City"
Source: Township Realtors SA, 2018

According to Township Realtors SA (2018), the development will include:

- 50 000 new job opportunities;
- Industrialisation of Soweto;
- Inclusion of emerging farmers and farmer education;
- Upskilling and training;
- Food production and food processing;
- Revitalisation of marginalised areas;
- Digital interactive platform for training and guiding of small scale and emerging farmers and ensuring economic sustainability;
- Enabling exporting of processed food rather than exporting raw food;
- Active use of recycling economy;
- 10MW Urban Solar Farm;
- Grey water and effluent treatment;
- Internal gas supply.

During the interview, the property developer (Township Realtors, 2018) was asked how the company intends to develop the plot of land on which Waterworks is situated, seeing that there is a Randwater pipe underground and the land is dolomitic. His response was that they are aware that the portion is not suitable for development but the rest of the 400ha of land is developable (ibid.). The Waterworks portion is going to be used for parking, storage or farming purposes (ibid.). However, it is significant to state that Township Realtors had previously considered the development of a golf course where Waterworks is situated before the settlement grew to its current size (ibid.). It could be argued that this indicates that there was no plan to rehabilitate the land at any given time, in order to upgrade the settlement, because the land has always been required for certain developments. In addition, the proposed developments discussed above have not begun to unfold; nonetheless it is prioritised over the informal settlement with families that were pleading not to be relocated. The development aims to achieve the industrialisation of Soweto as well as to create 50 000 jobs and this would be tremendously transformative in the local economy, however, it seems grandiose seeing that South Africa's large corporations had not been creating this amount of employment over the past few years and Township realtors does not break down how these goal will be achieved.

4.3 Conclusion

This chapter discussed the background of the case study as well as the proposed future developments. The following chapter outlines the findings gathered from field work around the challenges faced in the settlement, the lived experiences and the rapid assessment or categorisation of the Waterworks informal settlement conducted by the HDA. In addition, the chapter will also unpack the findings from Township Realtors SA and the councillor.

CHAPTER 5: FIELD FINDINGS AND SYNTHESIS

5.1 Introduction

This chapter unpacks the findings of this study. The first section of the chapter presents the lived experiences of the residents along with the challenges they face in the settlement. The second section outlines the findings regarding the residents' perceptions about living in the settlement. This is grouped into two categories: positive and negative perceptions of Waterworks. The chapter analyses the interviews conducted with 15 residents however, the majority of the findings in the living experiences section were acquired from interviews conducted in the study that was done by *Living the Urban Periphery* in 2018. Most residents expressed similar views when answering the interview questions thus the findings below have been grouped and summarised according to similarities. Other findings from the *Living the Urban Periphery* have been unpacked in the previous chapter in the demographics section. Additional findings discuss how the community of the Waterworks informal settlement feels about the relocations. These were acquired through interviews conducted by the researcher with the residents.

5.2 Lived experiences and challenges of the Waterworks informal settlement residents

This section focuses on the lived experiences and challenges that the residents raised in their interviews. The section covers the themes of a lack of basic services, safety and a lack of employment. The findings from the interviews conducted by the researcher are referenced using the abbreviation WR (Waterworks Residents) in order to distinguish them from the interviews conducted through the *Living the Urban Periphery* project, abbreviated as LUPWR (Living the Urban Periphery Waterworks Residents).

5.2.1 Lack of basic services

The major challenges facing Waterworks raised by residents are: the lack of basic services that include water, electricity, sanitation and waste disposal facilities. They expressed how a lack of water limits certain chores from being done in their houses and that bathing has to be compromised from time to time (this on its own brings high levels of illnesses). They also emphasised the struggles that come with the lack of access to electricity, for example, the use of paraffin for cooking and the use of candles for lighting (LUPWR3, 2018 and LUPWR9, 2018).

> *"Bathing is a huge process as we do not have electricity and we use paraffin stoves as our source of cooking and candles for lighting" (LUPWR3, 2018).*

The interviewee also stated that she uses firewood as a substitute for cooking:

> *"When I finish at work I have to come back and make a fire – 'imbawula' to cook because we fetch our firewood from the bush twice a week. I grew up in an area I could call heaven but when I arrived here I realised that people out there in the world are fortunate because in Waterworks there is no water, electricity, no sanitation and at no stage was there any waste disposal areas (WR4, 2018).*

Some residents stated that the lack of a formal dumping site frustrates them because the existing informal dumping site is opposite their shack and this brings an unbearable odour as a result of people littering and throwing dirt in and around the shacks (WR, 2018). Furthermore, the lack of proper planned ablution facilities is also a major challenge.

> "The toilet by my yard has no order. I wish I could just break it or even demolish it permanently because every day I clean the toilet but I hear people sneaking in at night to use the toilet. In the morning, I find the toilet full of paper, it gets irritating because I have to clean after people's dirt" (*LUPWR* 3, 2018).

The majority of the residents interviewed suggested that the first challenge to be addressed in Waterworks is housing, as a basic service, because the shacks become uninhabitable during rainy seasons and sometimes get flooded and destroyed:

> *"The shacks we live in, for example, get flooded in the rainy season. When it is hot, it gets really hot. It also freezes in cold weather. Dust also gets in" (LUPWR6, 2018).*

Secondly, the settlement has poor access to proper sanitation and this could result in health issues for the residents:

> *"We also do not have flushing toilets. We still use pit latrines. Our phones fall in there. Even children fall into those toilets. We have been told that we will be moved to another place but that has not happened. The government has failed us." (LUPWR6 , 2018 , 2018).*

> *"Two children died because of illegal electricity connections and many have been burnt by it, so we are very scared of these connections" (LUPWR12 , 2018).*

> *"We don't like it; it is not nice to live here. We are very poor here, we don't have electricity. We get firewood from the veld and I use grant money to buy paraffin" (LUPWR9, 2018).*

In addition to the above responses, the residents also indicated that the uncontrollable noise in the settlement interrupts their sleep, particularly in the morning (WR8, 2018). Most of this noise is generated by people walking to and from the nearby train station (ibid.). This is an everyday experience that they have to cope with (ibid.).

5.2.2 Safety

When asked about their lived experiences, 12 female interviewees explained to the researcher that living in the settlement has been difficult for them because they have been experiencing hardship and trauma from losing people they love (WR, 2018). This was also expressed in the *Living the Urban Periphery* (2018) interviews where one of the residents indicated that she witnessed close family friends, a mother and two sons, die in a fire but the community was unable to assist the family and the entire shack burned down. She further explained that there was a crime scene the previous month and she was being questioned by the police as she had witnessed a lady who got raped and killed (WR8, 2018).

From the above discussion and interactions with some residents, it is evident that the settlement has a high prevalence of alcohol abuse, domestic violence and crime (WR, 2018). The residents are thankful for the mobile clinic which has been introduced recently because, in the past, the majority of the deaths were associated with the lack of health care in the settlements however they are still troubled by safety issues (WR, 2018.) The NUSP (2006) argues that safety concerns and high crime rates in informal settlements result from the lack of lighting in common spaces and the lack of surveillance at certain times:

> *"Waterworks is good but it is not safe sometimes, because people get beaten up in the streets and so forth. This started in 2016 because before then we could walk at night without any problems but now it isn't safe at all. There are a lot of people who came to Waterworks. Some of these people are unemployed and spend their time doing nothing. So they just sit under the shade discussing their crime strategies and in the night they go out to do their criminal acts" (*LUPWR*7, 2018).*

> *"It's safe during the day sometimes. At night we would hear people screaming outside. For example there is a lady here Mme Tshidi, we all knew she used to drink a lot. She was found in the bushes dead. People heard her scream but no one helped her. We were scared to go out. People don't help you here" (*LUPWR*10, 2018).*

The issue of crime was also another challenge mentioned by the interviewee indicating that most women who fetch firewood feel threatened by being raped. There is no electricity in the informal settlement, people use candles.

> *"Because I am from the villages and at home we have electricity and we don't buy candles all the time" (*LUPWR*2, 2018).*

> *"I think the government should make means to provide everyone with houses because the community has lost so many lives already – the settlement is not safe, children have died*

because of zinyonganyonga (illegal electricity connections)" (WR6, 2018).

The lack of access to electricity has caused the settlement to use alternatives that are unsafe and are linked to the deadly shack fires in the settlement. One of the main challenges experienced is related to the lack of a proper management or "lookafter" of the infrastructure provided, particularly water. The residents indicated that the lack of a "lookafter" is from the community itself and the relevant municipal officials and this has resulted in water being wasted. One of the residents said that this affects her directly when there are water cuts resulting from either a lack of maintenance or a shortage of water. Furthermore, most residents use firewood for cooking and heating in winter and they have to travel to Lenasia to fetch the firewood.

5.2.3 Lack of employment

The residents indicated that the developments happening around Waterworks, such as Protea Glen Mall and others, do not enhance their lives economically. However,

> *"there are other 'good Samaritans' and NGOs that provide food in Waterworks especially for the children" (*LUPWR*, 2018).*

> *"So, during the week we have a lady from Zuurbekom, Mam Mbatha who brings the community food like cooked samp and potatoes and the Universal Church as well. Then we have some come to bring food for children on Saturdays" (*LUPWR*10, 2018).*

There are charity organisations that have been assisting the residents particularly with food:

> *"There is also an organisation called Philani and we eat, on Saturdays children eat and Sundays we eat. Even though we don't work, we don't starve" (LUPWR02 , 2018, 2018).*

The interviewees also mentioned that they are facing challenges of high youth unemployment (WR, 2018). The lack of public spaces, such as parks and sports facilities, has attracted drugs and alcohol abuse as well as gambling activities to the area (WR, 2018):

> *"The youth here don't work. Here is where they are playing cards and gamble, they don't work and hang around here. This is their sport and 'Nyaope' is a problem in Waterworks". (WR14, 2018).*

> *"I don't like the fact that, when you don't have connections here, you will not succeed. For instance, when there is a job opportunity, only a selected few will know and they will go to their house at night to tell that specific person to go to a certain place the following morning, so there won't be any official community meeting called for all of us to apply for posts" (*LUPWR*13, 2018).*

*"Our councillors are not working honestly with us as the community. They are the problem" (*LUPWR*11, 2018).*

The quotes above show that corruption and a lack of transparency about job posts affect the residents and this negatively impacts on their ability to find employment. The frustration of being unemployed hinders the residents' visions for the future. The lives of informal settlements residents could be improved through creating employment opportunities at a policy scale.

5.3 The pros/cons of living in Waterworks

Most of the parents interviewed explained that they do not want to live in the settlement because they desire better lives for themselves and their children. On the other hand, the sense of community is appreciated and the residents feel that they will lose that when being relocated because they will be combined with people from other areas:

*"What I like about the settlement is that we help each other. For example, if someone dies we contribute money for the funeral, even if it was suicide. We also have a feeding scheme every day which is run by a lady from Zuurbekom. It includes everyone but the children get to eat first so that, if the food runs out, the kids would have eaten (*LUPWR*7, 2018).*

"I am originally from North West and I was staying there before coming to reside in Waterworks. I came to Waterworks because I got a job at a catering company that provides services to Gold Reef City. Life hasn't been too difficult because I've been getting part time jobs but if I'm speaking for the residents in the settlement, it is not easy living here because the majority are unemployed. Getting a house will help us take steps to improve our circumstances because currently we cannot buy furniture because it gets ruined when it's raining. You don't have peace when you live in a shack because you might go to work and come back to find your shack and belongings burned or worst case scenario, the shack might catch fire while you are inside and might get burned alive" (WR10, 2018).

The residents indicated that, during stormy seasons, their shacks get flooded and trees fall on their shacks. They also expressed that it is very hard to raise children in informal settlements, especially the youth of today, because the youth in the settlement smoke and drink alcohol at a very early age:

"We need a house, at least an RDP house. We have long been promised RDP houses at Borwa and, having registered a long time back, we still don't have an RDP house. Even our mother had registered but we are told that we cannot qualify because we do not have parents. I also need my sisters to take care of me and attend to my needs as I have to go to school. I intend, upon finishing school, to take my sisters out from here to a better place

*such as Glen or Chiawelo. There is electricity and other amenities such as shops and malls in those places" (*LUPWR*8, 2018).*

5.3.1 How residents feel about being relocated

Most of the residents interviewed by the researcher expressed that they were very happy after they heard from the Mayor that Waterworks is being relocated and that they were going to move to their RDP houses after waiting for so long. The residents are grateful for the fact that they will not have problems with school transport for their children after moving because the same subsidised transport they are currently using will still transport the children in Westonaria Borwa. However, some residents are unhappy about being relocated because, according to their knowledge, RDP houses should have free water and electricity but they believe that they now have to buy electricity and pay for water in Westonaria Borwa.

Working with this informal settlement has shed light on the importance of in-situ upgrading because some of the residents do not want to be relocated but others would choose to have access to better infrastructure and services. The residents of Waterworks who do not want to leave the settlement say that it is because of the travelling distance from Westonaria Borwa to their places of employment, thus transport costs will be higher and they will be paying for services whereas they are not paying for anything in Waterworks. In addition, they were also concerned that they will be moved to an area that is far from familiar areas and the social networks that they rely on in their time of need (i.e. friends and family):

"I personally don't support being relocated to Westonaria Borwa; we are now used to Waterworks. Westonaria Borwa is located far away from the places we are familiar to. We don't pay for water in Waterworks. What will happen to the families that have no one working in the household? Who will pay for their water and electricity in Westonaria Borwa? I feel like we are being relocated yet we are still going to come across the same challenges we have currently in Waterworks" (WR15, 2018).

"We are happy about receiving houses but the issue is that our homes will be far from places of employment, especially because there are no part time jobs near Westonaria Borwa. We came to Waterworks because there are employment opportunities in Lenasia and the settlement is at a close proximity to Lenasia. Receiving an RDP house will help us because we are not safe in shacks (WR13, 2018).

"The residents that have already been relocated come to tell us that it is tough in Borwa because they no longer have their community networks which would usually assist when one does not have food. Yes, moving is good, we deserve to move because we have been staying here for years but what's the use of moving if we are still going to experience

poverty and hardship?" (WR12, 2018).

The above quotes from the residents indicate that the Waterworks informal settlement provides a way of living that is affordable for the low income group therefore, bringing services and economic opportunities closer to this area in addition to incremental upgrading, was better for them than relocation. They believe that this relocation will exacerbate their socio-economic issues by disrupting their livelihood strategies. The residents felt that they are largely excluded from the decision making regarding whether or not they would like to stay or leave (WR, 2018). They believed that they had no power or voice and they were only waiting to be told what the next relocation procedure involves or the details of when they will be relocated (WR, 2018).

In contrast to the above views against the relocation, some residents supported the intervention but were bothered by the way in which it will exclude their friends and family who are not South African. Below are some of the concerns that were expressed during the interviews:

> *"I am concerned about the non-South Africans residing in the settlement because we are a community and grew up together and some of these people have been taking care of us and we have relationships with some of them, so it will be painful to leave them behind when we receive houses in Westonaria Borwa" (WR7, 2018).*

When the researcher followed up by asking the councillor and the HDA Official (2018) about the non-qualifying residents, they both indicated that these residents have to make other arrangements and that this is an issue to be handled by Home Affairs. It is therefore clear that non-qualifiers require policy makers to reconsider their approach to this issue.

Some residents in the settlement have not applied for subsidised housing, although they qualify. One of the residents was hopeful that they will not be relocated:

> *"I did not apply for a house but I'm unemployed and I couldn't go to Westonaria to apply for the house. I don't have any back up as to where I will be staying after the relocation because I don't even think that we will be relocated. This is our home and they have been saying they will relocate us for years but they haven't. I am not even stressed, Waterworks is here to stay. I have two children and I dropped out from school in grade 8 but I am currently looking for a job" (WR9, 2018).*

On the other hand, a resident expressed enthusiasm about moving out of Waterworks:

> *"They told us that this place belongs to someone and therefore they will build some RDP houses for us elsewhere, but that has not happened. Since the last group of about 15 people moved to Borwa in December 2017, no one has moved. We have to go to*

*Zuurbekom for clinic. We use the train which is unreliable in that it has different times of arriving. Sometimes people have to hike or get lifts from private transport which is dangerous. People charge different amounts for lifts and some people do not have money. To go to school, kids use the train and sometimes, it being full, they ride outside the train and it is dangerous as most end up involved in fatal accidents. Life here is not good" (*LUPWR*6, 2018).*

5.4 Conclusion

This chapter has noted the lived experiences and the various challenges facing the Waterworks informal settlement. The discussion has demonstrated that, in line with other informal settlements, Waterworks is characterised by inadequate infrastructure, poor access to basic services and exposure to crime and violence. In addition, the findings have revealed that some of the informal settlement inhabitants are not pleased about being relocated to Westonaria Borwa because they feel that they will still experience poverty and hardship specifically in relation to the paying of services. The section therefore concludes by noting that the residents were not meaningfully engaged before the relocation intervention and therefore they feel voiceless and that the decision was taken with very little regard for their needs.

5.5 Rapid Assessment and Categorisation (RAC) of the Waterworks informal settlement

The *Rapid Assessment and Categorisation* (RAC) system conducted by the HDA to profile informal settlements in mining towns is

> "a strategic tool advocated by the National Upgrading Support Programme (NUSP) … the categorisation is informed largely by the need to determine, at a relatively early stage, the potential for long term formalisation on land which is informally occupied" (Aurecon, 2016:65).

The HDA falls under the National Department of Human Settlements. It was established in 2008 and one of its main key mandates is to fast track the acquisition of public and private land in order to hold it, package it, develop it and release it for human settlement development (HDA official, 2018). Over and above this, the Act of the agency allows the HDA to assist other organs of the state with the upgrading of informal settlements (HDA official, 2018). That entails any other additional requests or instructions that the agency may receive from the National Department of Human Settlements which it would undertake on its behalf (HDA official, 2018).

The HDA is mandated to oversee the implementation of the National Upgrading Support Programme (NUSP) and the Upgrading of Informal Settlements Programme (UISP) in mining

towns or mining provinces. That entails undertaking all the phases and key activities of the programme within these municipalities as well as ensuring that the department is assisted in achieving its national targets for the delivery of human settlements. Subsequent to the Marikana massacre in 2012, the Presidency established a spatial conceptual package to specifically look at the issues in mining towns. HDA's focus is to respond to the challenges in mining communities (HDA official, 2018).

Below is the interview with the HDA official (2018) around profiling and categorising informal settlements in South Africa.

How do you go about profiling a settlement?

"Profiling an informal settlement entails a number of key critical steps. The main one in my understanding is that you are trying to get statistical or socio economic data that would assist you in developing a plan or a response for the upgrading of the informal settlement. It is important because without knowing what the situational condition of the settlement is, it becomes difficult for you to intervene or compose a desirable intervention. The profiling entails what we call a remuneration that can be done through developing questionnaires that seek to establish what sort of economic conditions prevail in that particular settlement and that would allow you to respond effectively through understanding the issues of sustainable livelihoods in that particular settlement. For example knowing where people work, whether the settlement is viable where it is located or if the land is suitable and if there are no legal issues. Profiling a settlement helps with getting the above mentioned variable which is important in formulating a development response" (HDA official, 2018).

What are the different types of informal settlements you have observed in Gauteng?

"As part of the support we provide to provinces and municipalities, we come across different kind of informal settlements categories. We come across settlements that are fairly viable for upgrading where they are and where some sort of intervention has been provided and those are settlements that can be immediately upgraded because there are no legal issues involved and there might be some planning work that has been done, there might be services that were provided with the aim that it would be upgraded once the settlement is fully provided with permanent services. Those are *Category A settlement* where they are earmarked or would be in an ideal situation to be earmarked for imminent upgrading meaning that there aren't many challenges-the land is suitable, location is viable and there are no land legal issues or many challenges.

B1 settlements

These are settlements where the land is more or less viable but the intervention there would be to provide a better level of services meaning that what is currently there may be insufficient or inadequate and the intervention would be for you to upgrade the interim services with the view that it would be viable to upgrade that particular informal settlement in-situ over time. There might be various issues that need to be resolved e.g. land legal issues, tenure issues, and if there has not been any planning initiated and there might be some sort of re-blocking required depending on the densities.

B2 settlements

These are settlements that are not viable for long term upgrading. These are settlements in dire state and could require emergency basic services because you find that there are no services at all. These are settlements that are located on the outskirts of town where the mine has closed down and there are no economic opportunities, they have no access to basic services which makes it not viable to upgrade a settlement in this nature. It is not viable for it to receive in-situ upgrading and the intervention would be to provide a low level of emergency services and ensuring that long term, the settlement is relocated to a desirable location.

Category C settlement

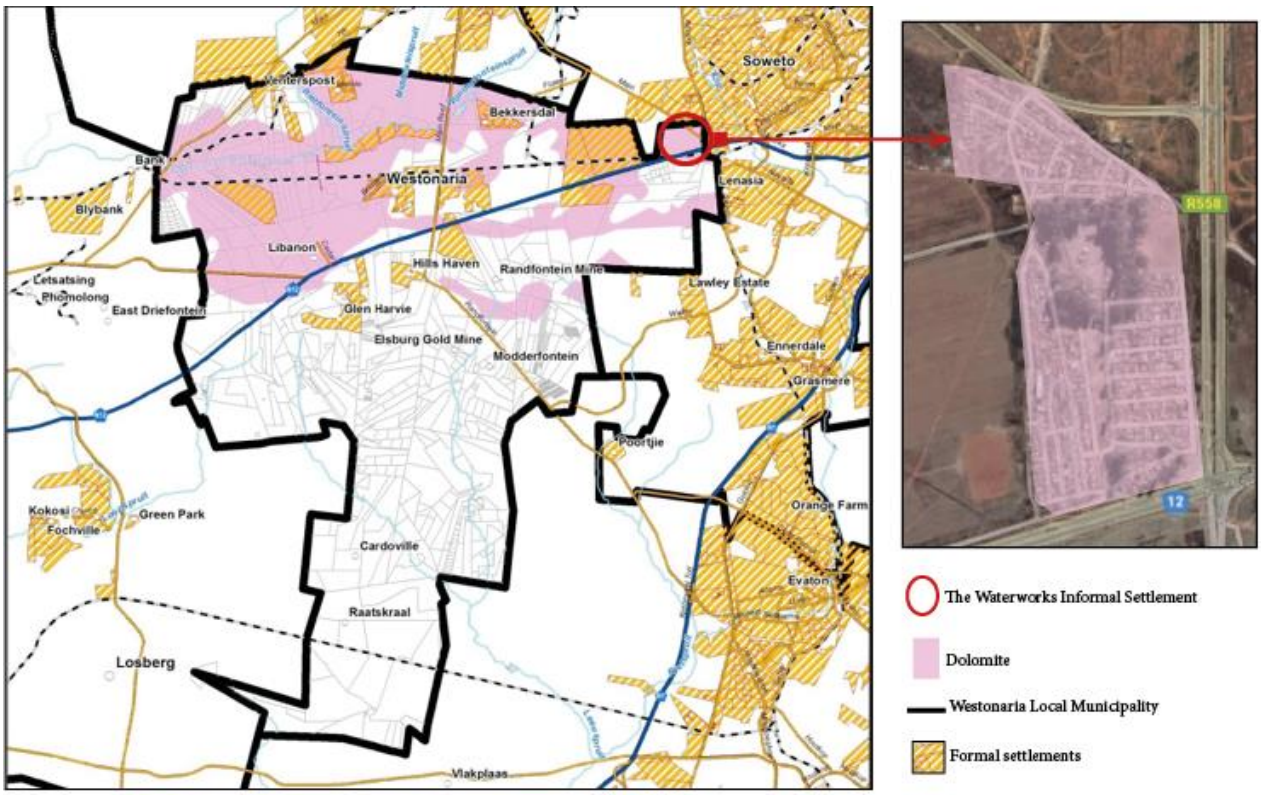
These are settlements that need to be imminently relocated. These are settlements that are not located in desirable locations meaning they have to be relocated as they might be on low lying areas which are prone to flooding or are in densely populated areas or are in dolomitic land and are under threat especially in the west rand. These are basically settlements that are in danger and need to be relocated imminently" (HDA official, 2018).

The HDA believes that there's enough research in South Africa that characterise or categorise informal settlements. The HDA's approach has been to develop a city wide informal settlement upgrading strategy. This will comprise of different interventions for each category and it will seek to provide a consolidated project pipeline. Most of the HDA's programmes are based on international approaches/practices and the policies are progressive because they seek to address four main issues – access to basic services, security and health, tenure security as well as community empowerment. The HDA Official (2018) indicated that there is a shift in informal settlement upgrading towards community participation, however, there is still a need for more capacitation of officials. The NUSP seeks to enforce participatory planning approach (communities need to be meaningfully engaged).

As discussed in Chapter 4, in 2016 the NUSP, in collaboration with the HDA and Aurecon, conducted a profiling study in the Waterworks settlement which yielded an informal settlement upgrading policy and strategy. The HDA corroborated this in the interview and indicated that they have profiled the Waterworks informal settlement and there was meaningful engagement with the community. However, it is not the responsibility of the HDA to implement the interventions. It is the duty of the municipal structures, ward councillor and ward committees to ensure that the residents are constantly engaged through the entire process "but it's in that instant that we tend to fail because there may be different interests from local structures and community groups which tend to compromise the processes" (HDA official, 2018).

"As far as developing an intervention for the settlement, the community was engaged because that is the main thrust of the NUSP. The message of not being able to reside there due to the Rand Water pipe and the dolomitic conditions has to be communicated constantly as the HDA only does the studies and leaves the implementation of interventions to the municipal officials/leadership at a local level. Expropriation resolution is necessary when the development is for public interest. The issue of non-qualifiers is very important. There are ways of dealing with them and it's not entirely a human settlement problem, so the responsibility is transferred to the right department of government, which is the Department of Home Affairs in this case" (HDA official, 2018).

Map 5.1: Geology: Dolomitic areas in Westonaria
Source: Aurecon, 2016



Technical studies (environmental assessments) showed that the settlement has to be relocated. The map above was developed as part of the 2014 Westonaria municipality SDF and it indicates that the land where the Waterworks informal settlement is located is dolomitic.

Below is a table of everyone who participated in this study,

Table 2.2. Interviewees

Interviewees	Date of the interview	Age range	Gender	Place
HDA official	04/12/2018 at	30-40	M	Killarney, Johannesburg
Property developer	28 /11/2018	30-40	M	ProteaGlen, Johannesburg
Ward councillor	04/12/2018	30- 40	F	Randfontein, Johannesburg
WR1	05/12/2018	20-30	F	Waterworks Informal Settlement
WR2	05/12/2018	20-30	F	Waterworks Informal Settlement
WR3	05/12/2018	30-40	F	Waterworks Informal Settlement
WR4	05/12/2018	30-40	M	Waterworks Informal Settlement
WR5	05/12/2018	20-30	F	Waterworks Informal Settlement
WR6	05/12/2018	20-30	F	Waterworks Informal Settlement
WR7	05/12/2018	30-40	M	Waterworks Informal Settlement

WR8	05/12/2018	20-30	M	Waterworks Settlement	Informal
WR9	05/12/2018	20-30	M	Waterworks Settlement	Informal
WR10	05/12/2018	30-40	M	Waterworks Settlement	Informal
WR11	05/12/2018	20-30	F	Waterworks Settlement	Informal
WR12	05/12/2018	20-30	F	Waterworks Settlement	Informal
WR13	05/12/2018	30-40	F	Waterworks Settlement	Informal
WR14	05/12/2018	20-30	F	Waterworks Settlement	Informal
WR15	05/12/2018	30-40	F	Waterworks Settlement	Informal

Source: own formulation

CHAPTER 6: ANALYSIS OF FINDINGS

The analysis sets the findings against the themes that were discussed in the literature review. Before this exercise however, the analysis first looks at the themes that emerged from the interviews to understand the general view of the participants and how they experience the problem. Following this, broader observations linked to the literature are made to develop a more nuanced understanding of the situation.

6.1 Themes emerging from the research

6.1.1 Paradoxical sense of community

Social networks are very important for survival in poor communities, such as informal settlements. These social networks and connections have been forged from years of living in Waterworks: “What I like about the settlement is that we help each other. For example, if someone dies, we contribute money for the funeral even if it was suicide” (LUPR5, 2018). Community members have learned to rely on one another where they are short of money, are victims of crime or a natural hazard when clothes, food and even money are collected to assist the afflicted. Social networks become their currency as relationships determine their access to resources, especially in times of crisis, need or desperation.

The experiences in terms of security are different however, as crime is rife and “people don’t help you here” (LUPR8, 2018). The settlement is not safe and people are afraid to compromise their own safety for the benefit of others. The growth of the settlement also reduces the sense of community as people no longer know and care for each other’s well-being, and there is a loss of respect for life and livelihoods. The high unemployment rate directly contributes to the increase in crime as unemployed youth are both idle and exist in a cycle of poverty.

There appear to thus be two layers of the community – one which is still bonded by community, unity and mutual care for each other’s needs and another that threatens the community’s safety and security. The co-existence of these contrasting factors in this community is reflective of greater trends of inequality in urban communities in South Africa where the tensions between the haves and have-nots are expressed through the violence of capitalism.

6.1.2 Loss of dignity due to lack of services

The absence of electricity, water and waste disposal is a direct cause of the residents' lack of dignity. The perceived economic opportunities of living in an urban, well-located settlement are negated by their living standards. Interviewee 3 stated that she grew up in an area that they could call "heaven" but when she arrived at Waterworks, she realised the magnitude of the inequality of informal settlements. What makes the experiences even worse is that, where services are provided, they are not maintained. The ablution facilities are a shared resource but the responsibility is not shared: "… it gets irritating because I have to clean after people's dirt" (LUPR3, 2018).

The location of various services, such as ablution facilities, influences the residents' perceived responsibilities of who must maintain them. The responsibility of cleaning the toilets falls on Interviewee 3 merely because her shack is next to them. This is not a clearly defined or regulated system of maintenance but she assumes this duty only because of her proximity to the toilets. She explained that the stench in the ablution facilities is unbearable and they must be cleaned for her own health. The lack of services provided to informal settlements is a key characteristic and vulnerable groups, such as women and children, often bear the brunt thereof (CSIR, 2006:7 in Meth, 2013: 540).

6.1.3 Resident apathy: perceived impact of relocation

The respondents did not agree on their perceptions of the relocation but there is a great sense of apathy that has emerged from the interviews. This is underpinned largely by the feeling that the government has failed the people of Waterworks, as explained by the interviewees:

> *"The quality of life in Waterworks is not good and the chances of it improving once the relocation has happened are thought to be low. Life is worse at the new settlement as it is further from opportunities and transportation costs are thus much higher" (WR4, 2018).*

> *"Yes moving is good – we deserve to move because we have been staying here for years but what's the use of moving if we are still going to experience hardship?" (WR12, 2018).*

Some residents doubt that the relocation will actually happen:

> *"I don't have any back up as to where I will be staying after the relocation because I don't even think that we will be relocated."*

The residents have lost their faith in the government, the municipality and those who have the power to improve their lives but it is likely that the development earmarked for Waterworks will

speed up the process. The urgency with which economic developments are handled compared to those concerning social development is very different, due to the motivation of financial gain of the proposed development.

6.2 Broader observations

This section is a closer look at the findings of the research set against the literature. Chapter 2 and Chapter 4 are linked here with the intention of creating a more open-ended way of understanding the evolving situation so that the case study can contribute to the literature about informal settlements.

6.2.1 Power and influence

The condition of Waterworks and its existence is the result of poor planning and regulations. The HDA Official (2018) stated however, that it is not the responsibility of the HDA to implement the interventions. It is the duty of the municipal structures, ward councillor and ward committees. Fekade (2000) argues that current land-use control and regulations in African cities are inflexible and over-detailed, consequently becoming part of the problem and not the solution. The complexity of the state, especially in post-apartheid South Africa, has caused frustration amongst disenfranchised communities who no longer know which organisation can assist them with their demands.

Caldeira (2017) argues that residents are the executors of urbanisation seeing that they construct their houses incrementally, according to their available resources, and she calls this process “autoconstruction”. The residents’ concerns are that they currently cannot improve their living conditions because of fires and floods that damage their possessions.

The autonomy that Caldeira suggests is present in the initial establishment of the informal settlement however, the daily life of informal settlement dwellers shows little sign of autonomy. Living conditions are determined by their ability to mobilise resources but even this is sometimes not guaranteed. The precariousness of living in a home that could be obliterated by floods or fire means that they have less control over their ability to establish a secure home. Perhaps “auto” here refers more to the self-starting nature that home-building must take and less about the control or agency that shack dwellers have over the process. The circumstances in which they live force the home-makers to create their homes incrementally with no certainty that it will be long-lasting.

6.2.2 Social displacements and quality of life

The resounding feeling of precariousness and uncertainty at Waterworks was summed up by

one resident who said that “you don’t have peace when you live in a shack”. Turok (2015) believes that the hardships borne by informal settlement dwellers are a sacrifice they make to lift them out of poverty. How long these conditions will exist is unclear however, as residents stay in these settlements for years, many even raising families in these places that are meant to be transitional to put them on the path to economic stability.

Informal settlements are a result of pre-existing conditions of poverty and inequalities in South Africa (Huchzermeyer, 2006). All the areas with informal settlements are an outcome of ill-fitting regional planning, poor legislation and inadequate housing policies that have not succeeded in providing affordable housing (Huchzermeyer, 2006). Poverty in these settlements is more than just unemployment; it is affected by deteriorating health and nutritional rates, “overcrowded housing, increased school dropout levels and increased stress upon physical and social environments of low-income urban residents” (Tshikotshi, 2009:2). The opportunities for upward social mobility or even economic stability are, in reality, met with downward mobility particularly because the conditions in the informal settlement are worse than those where the residents came from. The residents in informal settlements put up with these difficult conditions in the hope that their lives will improve. This contributes to them settling for long periods of time as more people move into the settlement. Urbanisation therefore continues, despite the apparent deterioration in quality of life.

6.2.3 Access to services and quality of life: Security and dignity

According to Huchzermeyer (2006: 104), having a sustainable livelihood is the ability to deal with and recover from shocks and stresses while maintaining and enhancing one’s capabilities and assets. The residents of Waterworks have a sustainable livelihood as they are able to use their social networks and gather financial resources to cope with shocks that put their livelihoods in jeopardy. However, the imminent relocation questions the future capabilities of the residents to enhance their livelihoods and the assets they have in their possession. The lived experiences of the residents at Waterworks show that their livelihoods cannot be sustained while there is uncertainty in their living arrangements, particularly pertaining to their access to services and security of tenure. The lack of security of tenure however, is something that is assumed of people living in informal settlements but is not necessarily true. Although the respondents were aware of the relocations, some were certain that they would not be forced to move in the near future.

The lack of access to services is also an indication of the stratification of membership in the urban community. Yiftachel (2009) states that the inequalities of residents of the same city are most explicitly expressed through the basic rights to property, services and power. In the case

of Waterworks, it is the lack of access to these benefits that illustrates this stratified membership that almost criminalises the existence of the informal settlement and renders their needs unimportant.

6.2.4 Tenure and land rights

One of the respondents said that they deserve to move because they had been staying at Waterworks for years but felt that there was no point in moving if they were still going to experience hardship. Being moved will increase their tenure security as they will have an RDP house in their name as residents. However, the guarantee of improved tenure security is undermined by the anticipated likelihood that the residents' hardships will continue even with tenure security.

This reinforces the UN-Habitat's established link between tenure security and poverty alleviation. The former is important for the latter but secure tenure is not a guarantor of poverty alleviation. The obstacles to being enlisted as a beneficiary of an RDP house also indicate more complexity. The underlying issue is that some residents have qualified for RDP houses in their home provinces and therefore they cannot receive or benefit from new RDP houses because they have houses where they originally came from. RDP housing is provided for no-income or low earning households who are subsidised. The fact that some households in Waterworks are registered for RDP houses in their home provinces shows a pre-existing condition of poverty and deprivation. The urbanisation of poverty is manifested through informal settlements, which in turn exacerbate the phenomenon through the conditions that they ultimately reproduce.

Tenure security is not just a matter of legal or illegal, formal or informal status; security is a relative concept and a matter of perception as well as law. Secure tenure, in this case, is more of a feeling which also contributes to their quality of life in the settlement. Although the physical standards of living are deplorable and, in many cases, unsafe, the certainty that comes with having a space that they can claim as theirs is one of the reasons the relocation might not appeal to most.

6.2.5 Economic growth with no economic development

Waterworks is set in an area which is thriving and growing economically and the site of the settlement itself is earmarked for development. The residents are set to be relocated to make space for the new development. The spread of the property development into Waterworks is an indication that perhaps growth without development is still a defining feature of the South African economy. The surrounding establishments that have economic activity have not

offered opportunities for the people of Waterworks, contributing to the trend of jobless growth.

The residents indicated that the developments happening around Waterworks, such as Protea Glen Mall and others, do not enhance their livelihoods economically. Many of them employ informality as an instrument for adaptation because, through informality, they get the benefits of living in cities, as well as having access to urban land that is at a close proximity to employment or livelihood opportunities (Weakley, 2014).

The continued disenfranchisement of informal settlement dwellers and poor communities in general is a result of what Huchzermeyer (2004) describes as exclusionary urban (economic) development/growth paths. Informal settlement upgrading, especially in situ, provides an opportunity for continued economic access for the urban poor while they enjoy the standard of living of their urban counterparts. This option is not available for those of Waterworks however, as the environmental conditions do not allow for a housing development to be feasible. The relocation of the residents is imminent but the residents are not in agreement whether this will improve their lives or not.

CHAPTER 7: CONCLUSION

7.1 Introduction

This chapter provides a summary and conclusion of the study. To show that the aims and objectives of this study were fulfilled, the chapter begins by reiterating the research questions of this study, then showing how the findings have contributed to answering the questions. This research report therefore concludes with a discussion explaining what the findings of the Waterworks study mean for understanding informal settlements in South Africa.

7.2 Answering the research questions

The main objective of this study was to contribute to the evolving understanding of informal settlements in South Africa. As part of this, the study discussed key distinctions evident across a range of informal settlements, specifically looking at their characterisation and typology. Using this set of distinctions, this research investigated the characteristics, dynamics and nature of the Waterworks informal settlement. It also aimed to understand the settlement, the reason for its existence, how it is understood by its residents, how it is understood in relation to scholarly articles and how it could be understood through government plans. In achieving these goals, this research question posed was:

What is the nature of the Waterworks informal settlement, what does this suggest for appropriate interventions, and how does this compare with actual practice?

This question, along with the sub-questions, guided the research method and the analysis of findings. The findings chapter provided answers to the overall research question and sub-questions.

The interviews conducted with the residents of the settlement, the property developer of the area and the HDA enabled the study to answer the sub-questions below:

What are the key characteristics of the Waterworks informal settlement and its residents?

The Waterworks informal settlement is situated on land that is dolomitic and, according to the HDA, this negatively impacts in-situ upgrading, leaving relocation as the upgrading response. The settlement is located at a close proximity to transport interchanges and employment opportunities and it has therefore attracted many people, thus accommodating 40 dwelling units per hectare.

The research has indicated that Waterworks is undergoing various changes, both noticeable

and hidden. The number of shacks or households in the settlement is decreasing due to the relocation however, what is not clear is the reason behind this relocation as opposed to in-situ upgrading. The interviews did not show a specific reason to support the intervention; however, the researcher was given supporting reasons, such as dolomitic land, private ownership of land which is earmarked for development and a pipe that runs across the settlement. The discussions in the findings have demonstrated that, similar to other informal settlements, Waterworks is characterised by inadequate infrastructure, poor access to basic services and exposure to crime and violence. In addition, the residents living in the settlement are low income South Africans and foreign nationals.

What are the lived experiences of residents of Waterworks informal settlement?

The lived experiences of the residents in Waterworks are linked to the daily challenges they face in the settlement regarding a lack of basic services, water, electricity, sanitation and waste disposal facilities. Some of the residents expressed how the lack of access to adequate water limits certain chores, such as cleaning their shacks, and that bathing has to be compromised from time to time (this on its own brings high levels of illnesses). The interviews with the residents of Waterworks revealed that living in the settlement is difficult because they suffer hardship and trauma from losing family members through shack fires and violence, and witnessing cases of rape (WR, 2018 and LUPR3, 2018)).

From the above discussion and interactions with some residents, it was evident that the settlement has a high prevalence of alcohol abuse, domestic violence and crime. Most of the parents interviewed explained that they do not want to live in the settlement because they desire better lives for themselves and their children. However, not all lived experiences are negative. The sense of community is appreciated and the residents feel that they will lose that when being relocated because they will be combined with people from other areas.

What interventions would mostly improve the residents' quality of life and how does this compare with actual practice?

Informal settlements are a global phenomenon which remains a rich subject for conducting research. In addition, there is a need for a broader analysis of the upgrading of informal settlements' policy and implementation frameworks in South Africa because policy does not align with actual practice. Looking at Waterworks in particular, the findings indicate that there is a need for a more meaningful engagement with the residents. The HDA said that, in developing an intervention for the settlement, the community was engaged because "that is the main thrust of the NUSP" however, none of the residents interviewed could attest to the

fact that participation was done in the settlement. This study argues that the intervention implemented in the Waterworks informal settlement does not fully align with the Housing code or the UISP. The National Housing Code (Department of Human Settlements, 2009:16) indicates that the programme "includes the possible relocation and resettlement of people on a voluntary and co-operative basis as may be appropriate". This does not align with what is currently happening in the settlement because the relocation is not being done in a voluntary or co-operative manner. Although the land is dolomitic, there was a need to consider other alternatives, such as land rehabilitation, for in-situ interventions before opting for relocation. The emerging issue around how things are implemented in the settlement is related to power, consequently posing a question as to who actually makes decisions about the future of settlements and who has the power to do so in reality despite what is said in policy about participation. This study believes that the profiling and rapid assessment in this informal settlement was not conducted thoroughly which has resulted in interventions that are not adequately considered. Investigating this realm is advisable, because participation is crucial to the success and sustainability of informal settlement interventions.

REFERENCES

Adegun, O.B. (2016). Informal settlement intervention and green infrastructure: Exploring just sustainability in Kya Sands, Ruimsig and Cosmo City in Johannesburg. Doctoral dissertation. Wits University, Johannesburg.

Aggarwal, A. (2016). *Informal and Formal Settlements*. Available at: http://www.architectureindevelopment.org/images/au/between%20formal%20&%20informal%20by%20Federica/1%20Vila%20Nossa%20Senhora%20da%20Luz.jpg

Aguilar, A. (2008). Peri-Urbanization, Illegal Settlements and Environmental Impact in Mexico City. *Cities*, 25(3), 133-145.

Amin, A. & Cirolia, R. (2018). Politics/matter: Governing Cape Town's informal settlements. *Urban Studies*, *55*(2), 274-295.

Bénit, C. (2002). The rise or fall of the 'community'? Post-apartheid housing policy in Diepsloot, Johannesburg. *Urban Forum,* 13(2), 47-66.

Berg, B.L. (2001). *Qualitative research methods for the social sciences*. London: Pearson.

Bloom, J. (2012). *Protea South Informal Settlement Should Be Upgraded, Not Removed*. Available at: https://www.dampl.co.za/2012/10/protea-south-informal-settlement-should-be-upgraded-not-removed/ [Accessed 9 June 2018].

Caldeira, T.P. (2017). Peripheral urbanization: Autoconstruction, transversal logics, and politics in cities of the global south. *Environment and Planning D: Society and Space*, *35*(1), 3-20.

CSIR, see Council for Scientific and Industrial Research.

Charlton, S. (2006). Learning from the local: Experiences of informal settlement upgrading in Kwazulu-Natal. *South African Review of Sociology*, *37*(1), 48-64.

Charlton, S. (2009). Housing for the nation, the city and the household: Competing rationalities as a constraint to reform? *Development Southern Africa*, *26*(2), 301-315.

Charlton, S. 2016. *Living the urban periphery: Investment infrastructure and economic change in African city-regions*. Available at: https://www.wits.ac.za/media/wits-university/research/peripheries/documents/WPSC%20.pdf

Cirolia, R. (2017). Overcoming the disjunctures: Competing discourses on informal settlements in South Africa. *International Development Planning Review*, *39*(4), 443-459.

Coffey, A. & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks, CA: Sage.

Combrinck, C., Vosloo, P. & Osman, A. (2017). Informal settlements: An upgrade. *Architecture South Africa*, 85, 42-48.

Council for Scientific and Industrial Research [CSIR]. (2006). *Mainstreaming gender in the housing and human settlement sector*. Pretoria: Department of Housing.

Crimson King Developments. (2018). Available at: https://westonariaborwa.co.za/housing-2/ [Accessed 26 January 2019].

Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.

Cross, C., Seager, J., Erasmus, J., Ward, C. & O'Donovan, M. (2010). Skeletons at the feast: A review of street homelessness in South Africa and other world regions. *Development Southern Africa*, *27*(1), 5-20.

Crous, P. (2014). Communal ablution facilities as interim measure for the upgrading of informal settlements. PhD Thesis. University of Johannesburg, Johannesburg.

Davis, M. (2006). Planet of slums. *New Perspectives Quarterly*, *23*(2), 6-11.

Department of Housing. 1994. White Paper on Reconstruction and Development. Government Gazette 126085. 23rd November 1994. Pretoria: Government Printer. Available at: https://www.gov.za/sites/default/files/governmentgazetteid16085.pdf

Department of Human Settlements. (2004). *'Breaking New Ground': A Comprehensive Plan for the Development of Sustainable Human Settlements.* Pretoria: Housing Policy, Department of Human Settlements.

Department of Human Settlements. (2009). *The National Housing Code Part 3: Upgrading of Informal Settlements.* Pretoria: Department of Human Settlements.

Department of Human Settlements. (2016). NUSP Resource Kit. The Case For Incremental

Upgrading http://upgradingsupport.org/uploads/resource_documents/participants-combined/Chapter-1-The-Case-For-Upgrading-May-2016.pdf [Accessed 07 Nov. 2018].

Dovey, K. & King, R. (2011). Forms of informality: Morphology and visibility of informal settlements. *Built Environment*, *37*(1), 11-29.

Du Plessis, C. & Landman, K. (2002). *Sustainability analysis of human settlements in South Africa*. Pretoria: CSIR Building and Construction Technology Programme for Sustainable Human Settlement.

Fekade, W. (2000). Deficits of formal urban land management and informal responses under rapid urban growth: An international perspective. *Habitat International*, *24*(2), 127-150.

Gibbs, A., Sikweyiya, Y. & Jewkes, R. (2014). 'Men value their dignity': securing respect and identity construction in urban informal settlements in South Africa. *Global health action*, *7*(1), 236-276.

Griesel, R.D., Swart-Kruger, J. & Chawla, L. (2002). Children in South Africa Can Make a Difference: An Assessment of Growing Up in Cities in Johannesburg. *Childhood*, *9*(1), 83-100.

Groenewald, L., Huchzermeyer, M., Kornienko, K., Tredoux, M.J., Rubin, M. & Raposo, I. (2013). Breaking down the binary: Meanings of informal settlement in southern African cities. In S. Bekker & L. Fourchard (Eds.), *Governing Cities in Africa: Politics and Policies*. Cape Town: HSRC Press.

Harrison, P., Gotz, G., Todes, A., Wray, C., Ahmed, P. & Badenhorst, W. (2010). *Changing space, changing city: Johannesburg after apartheid*. Johannesburg: Wits University Press.

Harte, E.W., Childs, I.R. & Hastings, P.A. (2009). Imizamo Yethu: A case study of community resilience to fire hazard in an informal settlement Cape Town, South Africa. *Geographical Research*, *47*(2), 142-154.

HDA, see Housing Development Agency.

HDA Official. (2018). Personal interview. 4th December. Killarney, Johannesburg.

Hindson, D. & McCarthy, J.J. (Eds.). (1994). *Here to stay: Informal settlements in KwaZulu-Natal*. Indicator Press.

Housing Development Agency [HDA]. (2012). South Africa: Informal settlements status. Available at: http://www.thehda.co.za/uploads/files/HDA_Informal_settlements_status_South_Africa.pdf [Accessed 7 July 2018].

Housing Development Agency [HDA]. (2014). *Informal settlements: Rapid assessment and Categorization*. [ebook] Johannesburg: The Housing Development Agency. Available at: http://thehda.co.za/pdf/uploads/multimedia/HDA_Rapid_assessment_and_categorisation.pdf [Accessed 28 Oct. 2018].

Huchzermeyer, M. (2002). Informal settlements: Production and intervention in twentieth-century Brazil and South Africa. *Latin American Perspectives*, *29*(1), 83-105.

Huchzermeyer, M. (2003). A legacy of control? The capital subsidy for housing, and informal settlement intervention in South Africa. *International Journal of Urban and Regional Research*, *27*(3), 591-612.

Huchzermeyer, M. (2004). *Unlawful occupation: Informal settlements and urban policy in South Africa and Brazil*. Trenton, NJ: Africa World Press.

Huchzermeyer, M. (2004). From “contravention of laws” to “lack of rights”: Redefining the problem of informal settlements in South Africa. *Habitat International*, *28*(3), 333-347.

Huchzermeyer, M. (2006). The new instrument for upgrading informal settlements in South Africa: Contributions and constraints. In M. Huchzermeyer & A. Karam (Eds.), *Informal settlements: A perpetual challenge?* (pp. 41-61). Cape Town: UCT Press.

Huchzermeyer, M. (2009). The struggle for in situ upgrading of informal settlements: A reflection on cases in Gauteng. *Development Southern Africa*, *26*(1), 59-73.

Huchzermeyer, M. & Karam, A. (2006). The continuing challenge of informal settlements: An introduction. In M. Huchzermeyer, & A. Karam (Eds.), *Informal settlements: A perpetual challenge?* (pp. 1-19). Cape Town: UCT Press.

Huchzermeyer, M., Karam, A. & Maina, M. (2013). Informal Settlements. In *Johannesburg: Spatial Change.* Johannesburg.

Huchzermeyer, M., Karam, A. & Maina, M. (2014). Informal settlements. In P. Achmad, G. Gotz, A. Todes & C. Wray (Eds.), *Changing Space Changing City: Johannesburg after Apartheid* (pp.154-171). Johannesburg: Wits University Press.

Jenkins, P. (2006). Informal settlements: Infernal and eternal? The role of research in policy advocacy and urban informal settlements in Angola. In M. Huchzermeyer & A. Karam (Eds.), *Informal settlements: A perpetual challenge?* (pp. 84-100). Cape Town: UCT Press.

Kamalipour, H. (2016). Forms of informality and adaptations in informal settlements. *ArchNet-IJAR*, *10*(3).

Kamalipour, H. (2016). Urban morphologies in informal settlements: A case study. *Contour Journal*, *1*(2).

Khalifa, M.A. (2015). Evolution of informal settlements upgrading strategies in Egypt: From negligence to participatory development. *Ain Shams Engineering Journal*, *6*(4), 1151-1159.

Landman, K. & Napier, M. (2010). Waiting for a house or building your own? Reconsidering state provision aided and unaided self-help in South Africa. *Habitat international*, *34*(3), 299-305.

Lombard, M. (2014). Constructing ordinary places: Place-making in urban informal settlements in Mexico. *Progress in Planning*, *94*, 1-53.

Maina, M.M. (2013). Challenges in policy transition: In situ upgrading of informal settlements in Johannesburg and Nairobi. Master's dissertation, Wits University, Johannesburg. Available at: http://wiredspace.wits.ac.za/bitstream/handle/10539/12813/Miriam%20M.%20Maina_Dissertation_May%202013.pdf?sequence=2

Marais, L. & Ntema, J. (2013). The upgrading of an informal settlement in South Africa: Two decades onwards. *Habitat International*, *39*, 85-95.

Mayson, S.S. (2014). Accommodation and Tenuous Livelihoods in Johannesburg's Inner City: The 'rooms' and 'spaces' Typologies. Doctoral dissertation, University of the Witwatersrand, Faculty of Engineering and the Built Environment, Johannesburg.

McFarlane, C. (2012). Rethinking informality: Politics, crisis, and the city. *Planning Theory & Practice*, *13*(1), 89-108.

Meth, P. (2013). 'I Don't Like My Children to Grow up in this Bad Area': Parental Anxieties about Living in Informal Settlements. *International Journal of Urban and Regional*

Research, *37*(2), 537-555.

Misselhorn, M. (2010). *A new response to informal settlements*. Available at: http://www.ngopulse.org/article/new-response-informal-settlements

Mutisya, E. & Yarime, M. (2011). Understanding the grassroots dynamics of slums in Nairobi: The dilemma of Kibera informal settlements. *Int Trans J Eng Manag Appl Sci Technol*, *2*(2), 197-213.

Napier, M. (2009). Making urban land markets work better in South African cities and towns: Arguing the basis for access by the poor. In S.V. Lall, M. Freire, B. Yuen, R. Rajack & J-J. Helluin, *Urban Land Markets* (pp. 71-97). New York: Springer Nature.

Napier, M. (1998). Core housing and residents' impacts: Personal experiences of incremental growth in two South African settlements. *Third World Planning Review*, *20*(4), 391.

National Upgrading Support Programme [NUSP]. (2013). *National Upgrading Support Programme and the case for informal settlement upgrading Western Cape Workshop 14-15 November 2013*. The department of human settlements. Available at: http://upgradingsupport.org/uploads/resource_documents/NDHS_NUSP_Western_Cape_Introduction_Upgrading_Workshop_14-15_Nov_13_(1).pdf [Accessed 5 Nov. 2018].

NUSP, see National Upgrading Support Programme.

NUSP Resource Kit. (2006). *Part 1: Understanding your informal settlements*. Available at: http://upgradingsupport.org/uploads/resource_documents/resources-combined/Part%201%20-%20Understanding%20your%20Informal%20Settlements.pdf

NUSP Resource Kit. (2006). *Part 2: In situ upgrading principles and policies*. Available at: http://upgradingsupport.org/uploads/resource_documents/resources-combined/Part%202%20-%20%20In%20Situ%20Upgrading%20Principles%20and%20Policies.pdf

Payne, G. (2001). Urban land tenure policy options: Titles or rights? *Habitat international*, *25*(3), 415-429.

Payne, G., Durand-Lasserve, A. & Rakodi, C. (2009). The limits of land titling and home ownership. *Environment and urbanization*, *21*(2), 443-462.

Peberdy, S., Harrison, P. & Dinath, Y. (2017). *Uneven spaces: Core and periphery in the*

Gauteng City-Region. Johannesburg: GCRO.

Pieterse, M. (2018). Where is the periphery even? Capturing urban marginality in South African human rights law. *Urban Studies*, 56(6), 1182-1197.

Pillay, J. (2004). Experiences of learners from informal settlements. *South African Journal of Education*, *24*(1), 5-9.

Property Developer. (2018). Personal interview with property developer from Township Realtors SA. 28th November. Protea Glen, Johannesburg.

Richards, R., O'Leary, B. & Mutsonziwa, K. (2007). Measuring quality of life in informal settlements in South Africa. *Social Indicators Research*, *81*(2), 375-388.

Roy, A. (2005). Urban informality: Toward an epistemology of planning. *Journal of the American Planning Association*, 71(2), 147–158.

Shapurjee, Y. & Charlton, S. (2013). Transforming South Africa's low-income housing projects through backyard dwellings: Intersections with households and the state in Alexandra, Johannesburg. *Journal of Housing and the Built Environment*, *28*(4), 653-666.

Smit, S., Musango, K., Kovacic, Z. & Brent, C. (2017). Conceptualising slum in an urban African context. *Cities*, *62*, 107-119.

South Africa. (1996). The Bill of Rights of the Constitution of the Republic of South African (1996). Government Gazette. (No. 17678).

Statistics South Africa. (2004). *Statistics in Brief*. Pretoria: Statistics SA.

Suditu, B. & Vâlceanu, D. (2013). Informal settlements and squatting in Romania: Socio-spatial patterns and typologies. *Human Geographies: Journal of Studies & Research in Human Geography*, *7*(2).

Tissington, K. (2011). *Legislation, Policy, Programmes and Practice: A Resource Guide to Housing in South Africa 1994-2010*. Johannesburg: Socio-Economic Rights Institute (SERI).

Township Realtors SA. (2018). The developers of Protea Glen. Available at: https://townshiprealtors.com

Tshikotshi, V. (2009). The challenges of eradicating informal settlements in South Africa by

2014: The case of Seraleng sustainable human settlement, Rustenburg Local Municipality, North West Province. MSc thesis, University of the Witwatersrand, Johannesburg.

Turok, I. (2015). Myths and Realities of Informal Settlements: Poverty Traps or Ladders? Available at: http://www.hsrc.ac.za/en/review/hsrc-review-july-to-sept-2015/myths-and-realities-of-informal-settlements

UN-Habitat. (2010). The challenge of slums. Global report on Human settlements: revised and updated version. Accessed 8 February 2016, from http://unhabitat.org/wp-content/uploads/2003/07/GRHS_2003_Chapter_01_Revised_2010.pdf

Upgradingsupport.org. (2018). *NUSP*. Available at: http://upgradingsupport.org/ [Accessed 7 Nov. 2018].

Vearey, J. (2011). Challenging urban health: Towards an improved local government response to migration, informal settlements, and HIV in Johannesburg, South Africa. *Global health action*, *4*(1), 5898

Ward, P.M. & Carew, J. (2000). Absentee lot owners in Texas colonias: Who are they, and what do they want? *Habitat International*, *24*(3), 327-345.

Ward, P.M. & Peters, P.A. (2007). Self-help housing and informal homesteading in peri-urban America: Settlement identification using digital imagery and GIS. *Habitat International*, *31*(2), 205-218.

Ward, P.M., De Souza, F. & Giusti, C. (2004). 'Colonia' Land and Housing Market Performance and the Impact of Lot Title Regularisation in Texas. *Urban Studies*, *41*(13), 2621-2646.

Weakley, D.J. (2014). Recognising vulnerability and resilience in informal settlements: The Case of Kya Sands, Johannesburg, South Africa. Doctoral dissertation. Wits University, Johannesburg.

Wekesa, B.W., Steyn, S. & Otieno, F. (2011). A review of physical and socio-economic characteristics and intervention approaches of informal settlements. *Habitat international*, *35*(2), 238-245.

West Rand District Municipality. (2013). West Rand-District Municipality Sustainable Human Settlement Plan second draft report. Available at: http://www.wrdm.gov.za/wrdm/wp-

content/uploads/2015/05/West-Rand-District-Municipality-Sustainable-Human-Settlement-Plan-with-cover.pdf. [Accessed 9 June 2018].

World Bank. (1993). *Housing: Enabling markets to work*. A World Bank Policy Paper. Washington, DC: World Bank.

Yiftachel, O. (2009). Critical theory and 'gray space': Mobilization of the colonized. *City*, *13*(2-3), 246-263.

Yuen, R. Rajack, Helluin, J. (Eds.). (2009). *Urban land markets: Improving land management for successful urbanization*. Dordrecht: Springer. ISBN: 978-1-4020-8861-2.

Ziblim, A., Sumeghy, M.G. & Cartwright, A. (2013). The dynamics of informal settlements upgrading in South Africa. *Habitat International*, *37*, 316-334.

ANNEXURE A: ETHICAL CLEARANCE

[redacted]

SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESERCH ETHICS COMMITTEE

SCHOOL OF ARCHITECTURE PLANNING

CLEARANCE CERTIFICATE
PROTOCOL NUMBER: SOAP051/07/2018

PROJECT TITLE:	Understanding informal settlements: The Waterworks informal settlement profile
INVESTIGATOR/S:	Adelaide Nkoane (Student No: 669558)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	Masters of the Built Environment (MBE)
DATE CONSIDERED:	03 September 2018
EXPIRY DATE:	03 September 2019
DECISION OF THE COMMITTEE:	Approved

CHAIRPERSON _____
(Professor Daniel Irurah)

DATE: 04-09-2018

cc: Supervisor/s: Sarah Charlton

DECLARATION OF INVESTIGATORS

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature _____ **Date** 19/09/2018

School of Architecture & Planning
University of the Witwatersrand
Private Bag 3 Wits 2050
Johannesburg South Africa
www.wits.ac.za

T +27 11 717 7623
F +27 11 717 7649

ANNEXURE B: PARICIPATION INFORMATION SHEET

Good day

My name is Adelaide Nkoane, I am currently a full time student registered for the Master of the Built Environment in the field of housing at the School of Architecture and Planning, University of the Witwatersrand. I am working on my research which is about understanding informal settlements. This study aims to understand the characteristics, dynamics and nature of the Waterworks informal settlement. The first phase of the study will develop a portrait of the Waterworks informal settlement in order to get an understanding of the kind of settlement it is and where it lies within the bigger narrative of informal settlements. The second phase of the study aims to investigate the dynamics or elements that are significant in improving the quality of life of residents living in informal settlements, along with the main limitations to living a life that is satisfactory

I am inviting you to be part of the study through an interview process. The interview will take approximately half an hour. During the course of the interview you will be asked questions regarding the settlement, your quality of life and your living experiences.

The session will be recorded using an audio recorder because the interview needs to be transcribed, and through hand written notes and you are mostly welcome to say no if you do not feel comfortable to be recorded. You have been selected to participate in the study because it will enable the study to better understand the dynamics and complexities in the area through your insight as a resident. Your participation is voluntary, you may refuse to answer any questions that make you uncomfortable, and you may withdraw at any time without penalty or loss. You will receive no payment or other incentives for your participation.

You will remain completely anonymous as a participant and you will not be personally identified in the final report and all data relating to you will be kept safe on a laptop that has a password and cannot be opened by anyone but me.

The research is solely for academic purposes and once completed will be available electronically and can be accessed publicly in the library.

If you have any questions, concerns or comments or if you would like a copy of the final report, please feel free to contact me at 669558@students.wits.ac.za or my supervisor Sarah Charlton at Sarah.Charlton@wits.ac.za

Thank you for your interest.

Adelaide Nkoane

ANNEXURE C: FORMAL CONSENT FORM



I hereby confirm that I have been informed by Adelaide Nkoane of the purpose, procedures, and my rights as a participant. I have received, read and understand the written participant information sheet. I have also been informed of:

- The nature of my participation in the form of an interview
- The reasons why I was selected to participate in the study
- The voluntary nature, refusal to answer, and withdrawing from the study o No payment or incentives
- Confidentiality
- Anonymity
- How the research findings will be disseminated

I therefore agree to participate in this study by participating and answering the questions in the interview session.

I AGREE / DO NOT AGREE to audio-recording during interviews. PARTICIPANT:

_____

Printed name

_____ _____

Signature Date

Understanding informal settlements in South Africa: The Waterworks informal settlement profile

Recording Verbal Consent, June 2018

It is anticipated that some participants may not be comfortable with the idea of the consent form and/or may be unable to read or sign, and in these cases verbal consent will be sought prior to the questionnaire or interview through the following process.

At the beginning of each meeting with the participants, the lead researcher will briefly discuss the research project, reading out the appropriate participant information sheet.

The researcher will then verbally confirm whether the participant has understood the information and whether they are happy to proceed with the interview/questionnaire.

In all cases where this consent is verbally granted, this will be recorded by the researcher at the time of the interview itself, by completion of the following statement:

"I [name of researcher] ...Adelaide Mahlatse Nkoane.....confirm that I have communicated the content of the relevant participant information sheet to [name of participant] ..... and survey number of participant (number)

.....of [address]…….

They have verbally confirmed that they have understood its content, and are willing to participate in this research as a result.

Signed: [Researcher's signature]..... Date: .....

This record will be securely stored alongside completed the other written consent forms.

Understanding informal settlements in South Africa: The Waterworks informal settlement profile

Interview questions – semi-structured with

- Twelve to fifteen informal settlement residents within the age range of 18-65
- Two Westonaria local municipality officials
- Two Informal settlements research experts
- Two officials from the National Upgrading Support Programme (NUSP)
- Two officials from the Housing Development Agency (HDA)

ANNEXURE D: INTERVIEW QUESTIONNAIRES

Westonaria local municipality officials

1. Please help me better understand the settlement. What is the history of the Waterworks informal settlement? Who lives there? Why do they live there? Who owns the land?

2. Is it an informal settlement? Why do you say that?

3. In your view, what are the factors that make the Waterworks informal settlement different from or similar to other settlements in Johannesburg and in SA?

4. Do you see differences in the various informal settlements in the city? What do you see as the differences?

5. How has the Waterworks settlement changed over the years? What was and is the size of the settlement?

6. What interventions has the City implemented in the settlement? What were the main obstacles in the implementation?

7. Does the City have any interventions planned for the settlement?

8. What processes are followed in formulating necessary interventions for informal settlements upgrading?

9. What is the nature of the Waterworks informal settlement? In your understanding, what do you think is the reason for its being?

10. What does this imply for interventions to improve the quality of life of its residents?

11. What are the elements that are significant to understand in attempt to improving the quality of life of residents living in informal settlements?

12. What are the physical and socio-economic characteristics of the Waterworks informal settlements?

Officials from the National Upgrading Support Programme (NUSP) and Informal settlements research experts

1. What are the main aims of the Upgrading Informal Settlements Programme (UISP) and Urban Settlements Development Grant (USDG) and have these, in your view yielded the desired results in Johannesburg/in SA?

2. In your view can you say that upgrading all informal settlements in the country is possible? If not what are the key gaps that need to be addressed?

3. In your view can you say that the UISP has been successful in fulfilling its mandate? If not, what are the reasons for the failure?

4. Why is it that local authorities and practitioners find the in-situ upgrading of informal settlements extremely challenging?

5. Do you see differences in informal settlements? What different kinds or categories of settlements would you identify? Is this significant in how interventions are approached? How does this influence approaches to intervening in informal settlements? Is it important to conduct more research that differentiate and characterise informal settlements in South Africa? Why is this?

6. Do you have any information about the Waterworks informal settlement near Protea Glen?

7. From your experience, could you identify elements that the UISP does not address? Could you give examples?

8. How does your entity communicate with government departments at different levels in its efforts to implement the UISP?

9. What are the elements that are significant to understand in attempt to improving the quality of life of residents living in informal settlements? How do they inform interventions?

10. What have been the challenges?

Officials from the Housing Development Agency {HDA)

1. Can you explain the work you do and how you work with various tiers of government?

2. How do you go about profiling a settlement?

3. Do you see difference in informal settlements? What different kinds or categories of settlements would you identify? Is this significant in how interventions are approached? How does this influence approaches to intervening in informal settlements? Is it important to conduct more research that differentiate and characterise informal settlements in South Africa? Why is this?

4. Could you comment on the role of your agency in addressing issues around the implementation of generic interventions in informal settlements?

5. What are the elements that are significant to understand in attempt to improving the quality of life of residents living in informal settlements?

6. What have been the implications for the informal settlements that you have not profiled?

7. What is the process of choosing an informal settlement to study?

Residents

1. How did you come to be a resident in the settlement and how long have you been residing here? Why did you choose this settlement? Where were you before?

2. What are your future intentions about staying or leaving this settlement? Why is this?

3. Tell me about life in this settlement. What are the challenges you experience in the settlement? How does your current experience differ from when you first moved in the settlement?

4. Are you aware of any community structures/forums in the area? What do you think is their role and how do the institutions help you?

5. What services are provided by the government? What services are acquired informally?

6. What are the positive/negative things you can say about the settlement? In your own view, what more can be done by government to improve your life as a resident here? What do you like the most about being a resident here?

7. What have the residents done to improve their lives without the help of the government?

8. As a resident, what do you think are the elements that are important to understand in attempt to improving the quality of life of residents living in informal settlements?

9. What are the main limitations to living a life that is satisfactory in the settlement?

10. Are you aware of any plans by the local government to either upgrade the settlement or relocate you elsewhere?