SPATIAL PLANNING STRATEGIES TO CURB EMERGING INFORMAL SETTLEMENTS IN VREDE TOWN, SOUTH AFRICA.

BY

VHUTHU PERTUNIA MAKANANISE

UNIVERSITY OF VENDA 2025

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RESEARCH TITLE:

SPATIAL PLANNING STRATEGIES TO CURB EMERGING INFORMAL SETTLEMENTS IN VREDE TOWN, SOUTH AFRICA.

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THOHOYANDOU, LIMPOPO PROVINCE, SOUTH AFRICA

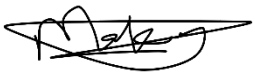
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DECLARATION:

I, (Vhuthu Pertunia Makananise) [16000601], declare that this research is my original work and has not been submitted for any degree at any other university or institution. The proposal does not contain other persons' writing unless specifically acknowledged and referenced accordingly.



Student Signature: ..... **Date**: ....13 August 2025.....

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DEDICATION

This dissertation is dedicated to God Almighty, who granted me the strength, wisdom, and power to complete this study. I also dedicate it to my parents, my father, Mr. A. Thompson, my mother, Mrs. N. Elizabeth Makananise, my grandmother, Mrs. Masindi Mugwena, and my whole family for their everlasting support.

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ABSTRACT

Spatial planning strategies as a sustainable urban strategic framework can advocate for the creation of a compact town with sustainable human settlements. The strategies will address the issues of land invasion and informal settlements that have been a challenge in Vrede town in a quest to create a more sustainable and inclusive town. Vrede town is a small, fast-growing, and developing town that has shown potential in agriculture and light industries. The two sectors have not only attracted Vrede residents but also people from other provinces, as they are situated in the middle of KwaZulu-Natal, Gauteng, and Mpumalanga.

Not all residents currently have access to adequate basic services; however, the Phumelela Spatial Development Framework has highlighted the need for spatial planning as a strategy to provide these services to residents easily. Mixed-use development within the town, along with infill development of existing sites, will attract investors and developers, creating employment opportunities and enhancing the town's economy. It is crucial to use space sustainably and efficiently, guided by policies, as this will eradicate urban sprawl, which has been a persistent challenge in town to date.

Keywords: *Spatial planning strategies, human settlement, informal settlement, land invasion, small town, sustainability, policy.*

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ACRONYMS AND ABBREVIATIONS

EIA	Environmental Impact Assessment
GIS	Geographical Information System
HS	Human settlement
IDP	Integrated Development Plan
KII	Key Informants Interviews
LUS	Land Use Scheme
NDP	National Development Plan
NEAA	Netherlands Environmental Assessment Agency
NQD	Number of Questionnaires Distributed
NQR	Number of Questionnaires Returned
NSDP	National Spatial Development Perspective
RSA	Republic Of South Africa
SDF	Spatial Development Framework
SPLUMA	Spatial Planning And Land Use Management Act
Stats SA	Statistics South Africa
JMPD	Johannesburg Metropolitan Police Department
PPP	Public Private Partership
NSDF	National Spatial Development Framework
SPLUMA	Spatial Planning and Land Use Management Act
FSDF	Free state Spatial Development Framework
SAHIF	South African Housing and Infrastructure Fund
SALGA	South African Local Government Association

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

It has been determined that numerous informal settlements are emerging in South African towns and urban areas (Magidi and Ahmed, 2022). This is attributed to access to efficient resources and services. According to the South African Housing and Infrastructure Fund (SAHIF), 2021, illegal occupation of land is not only a national challenge but a global experience. Thousands of people who move and occupy land illegally are not only residents, but also migrants from other provinces and countries. It is believed that post-apartheid South African era has high experience of unplanned cities and land invasions which has been edged by the Bill of rights which states "Every citizen has the right to enter, to remain in and to reside anywhere in, the Republic" (The Constitution of Republic of South Africa, Act 108 of 1996 section 2(21).

The failure of functional urban planning systems within countries has contributed significantly to land invasion and the emergence of informal settlements in many small towns worldwide. Collier et al. (2018), amongst others, defined Informal settlements as areas that have been developed illegally without complying with the By-laws of the local authority in charge. According to Bernstein (1996), small towns are middle dense homeland settlements with a lack of adequate access to services, facilities, and land, normally referred to as commercial farming areas, while land invasion is referred to as unauthorised land occupations with no rights to housing or site (Mutero and Makwara, 2018).

The concerns of land invasion and informal settlements pose a threat to the development and aesthetic view of local municipalities. In the case of the north of Mindolo North Municipal Township in the city of Kitwe, Zambia, despite local authorities alerting illegal residents of demolition plans for the existing informal settlements (Munshifwa, 2019). According to Jacques (2021), the human settlement programs in European countries were adopted in various places as a strategy to curb the challenges of informal settlements and socio-economic issues, particularly in fast-growing cities and towns experiencing demographically, economic pressure, migration pressure, and large transport infrastructure projects in and on the outskirts of the city or towns.

Global concern about Land invasion, small towns, and informal settlements

Tendencies of land invasion across the world have been associated with unemployment, lack of access to services, and shortage of land for housing or residential purposes, which has now resulted in many urban spaces declining in economic development and proper planning

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(Tissington 2013). Land invasion has been overlooked, and the focus has shifted to emerging informal settlements; however, in reality, we should look into the drivers of informal settlements as a result of land invasion.

Although ministers of Housing have expressed sympathy for the current and past land invasion challenges, illegal land occupation does not address the global housing shortage issue (Gigaba and Mahara 1996). Land invasion is believed to have a negative impact on Private and Government properties, as they are often allocated at a lower value and should have been defended by authorities who overlook the challenge (Mabin 1994). The illegal invasion of both private and public properties has been regarded as a conspicuous political action of urban masses in various areas due to the level of organisation within the invaders and the government backing (Gigaba and Mahara, 1996).

Informal settlements have been used interchangeably in most studies, such as slums, squatter camps, or service areas, with low standards of human settlement and an unclean environment (Kachenje 2020). However, Jones (2017) argued that informal settlement forms part of a broader urbanization process that 'sometimes' allows residents extra access to legal housing, services, and economic activities. There are characteristics which are associated with informal settlement as others believe that cause of informal settlement emerged from the apartheid era, however the population increase post-apartheid era has led to housing shortage and land grabs in most parts of South Africa (Marutlulle, 2017), but the studies thus far have focused on informal settlement and not land invasion and methods to curb them.

According to Glenn, Florescu, and The Millennium Project Team (2017), challenges being faced globally cannot be addressed by an institution or government alone, but a collaborative effort of the Government, institutions, NDOs, Universities, and creative individuals. The challenges are transnational and are spreading like diseases with no cure across the Globe (Quencez et al., 2023).

South African concerns

The United Nations, Department of Economic and Social Affairs, Population Division, (2018) estimated that by 2030, at least 72.1% of South African people will have moved to urban areas, and by 2050, at least 8.8%, which will amount to 80% of the South African population. Within 9 months, the city of Cape Town reported more than 300 illegal occupants within the city who invaded land and had informal settlements (Kachenje 2020). People often argue that Government sectors have to provide housing in respect of the constitution of SA "right to shelter," where in

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local municipalities it becomes a challenge as there is a lack of funding. In some no land belongs to local municipalities (South African Housing and Infrustructure Fund (SAHIF), 2021).

Various cities and towns have since implemented spatial planning strategies as human settlement programs to promote social interaction and cultural diversity worldwide. One notable example is Johannesburg, South Africa (Todes et al., 2018). According to the Phumelela Spatial Development Framework (2022) and the Department of Human Settlement of Free State, Mavakgeng informal settlement in Vrede town has been declared inhabitable by the studies conducted, as the area is waterlogged; however, residents have invaded the municipal land illegally and continue to reside. Human settlement programs will be suggested as strategies to curb the emerging informal settlements and land invasion.

Vrede is a small town in South Africa, located in the Free State under the Phumelela local municipality. With a fast-growing population, the town has seen an increase in housing demand, which in turn has stimulated informal settlement. The growth in informal settlements in Vrede town highlights the need for established human settlement programs for residential purposes within Phumelela municipality. Therefore, this research investigates spatial planning strategies that can be adopted in Vrede to address the informal settlement challenge. Todes, et al, (2018) cited that the strategies in general, that the strategy can be regarded as a good policy because it enables the past apartheid gaps into integrated planning to achieve the goal of spatial and social integration which is a requirement for national development as per Spatial Planning and Land Use Manangement Act 16 (2013).

1.2 Rationale

This study aims to unpack land invasion and informal settlement, and to investigate the most suitable human settlement program. To achieve this, it will examine spatial planning strategies, evaluating the merits and demerits of each within Phumelela Local Municipality and informal settlements and informal settlement, and to investigate the most suitable human settlemen. At the same time,ram. It does so by examining spatial planning strategies, evaluating the merits and demerits of each within Phumelela Local Municipality (Collier, et al., 2016) The importance of investing in infrastructure in fast-growing cities and towns is recognized. Du Plessis and Boonzaaier (2015) emphasize the need to transform the structure and morphology of cities in South Africa, given the increase in density, which has led to the emergence of decentralized urban structures. On the other hand, Harrison et al. (2015) argue that the post-apartheid era has allowed

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urban areas, cities, and towns to densify drastically, which has then resulted in the misuse of services and pressure on basic service delivery.

For various years, it has been assumed that the cost of providing sustainable services forms a significant component of the overall cost of housing which is incorrect (CSIR Building and Construction Technology, 2000). The cost of housing does not form part of the components for service delivery, but the provision of suitable human settlements does. According to (CSIR Building and Construction Technology, 2000) there are two approaches that makes emphasis on the creation of a habitable human settlement which is the Human-cantered approach that states the purpose of planning as to ensure that the developmental needs of people living in settlements are catered for. In contrast, the nature-cantered approach recognises the natural systems while planning to ensure that the environment is catered for (Schlotfeldt, 1995a).

The development of human settlements requires not only the provision of water, sites, and waste collection but also the consideration of environmental needs and the supply of sufficient resources, such as manpower and energy, as a general principle. There has been a concept that informal settlements are formed as a result of opportunity attraction nearby (CSIR Building and Construction Technology, 2000), however, opportunities can be created within settlements where people are residing (Tacoli 2017).

According to Jones (2017), sustainable urbanization policies may be implemented, but the challenge we will come across will be addressing informal settlements, as most of them are not spatially and economically included. In 2015, an estimation was made that at least 54% of the world's population lived in cities. It is predicted that at least about 70% of the world's population will move and reside in urban areas by 2050. Following thi, there will be pressures on economic growth, spatial distribution, and residential areas, which might result in high informal settlement formation, which leads us to say a sustainable development concept should be adapted and implemented to be proactive (Brundtland et al., 2017).

During the apartheid era, land invasion was not an issue as compared to the post-apartheid era, even though SPLUMA and the National Development plan 2030 are in place to curb these challenges on a daily basis, we continue to see the decline of polices and our government forces failing to take action to address them. Land has been planned for invasion, and informal settlements have been established by residents, often encouraged by politicians and the government. Consequently, the government is being compelled to provide services that were neither planned nor budgeted for (Álvarez-Rivadulla, 2017).

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Post-apartheid era policies are failing to address the transformation in the constantly changing built environment and the residential challenges in urban areas (Ahmad and Pienaar 2014). These challenges have been noted and their effects on the municipality, the town, informal dwellers, and community members of Vrede, having worked with these issues day to day as a Town planner under the municipality. It has been noted that numerous studies that previously focused separately on land invasion, informal settlements, and the spatial planning strategies through human settlement program, but not unifying the three concepts. However, this study aims to explore these concepts as one challenge leading to another.

1.3 Statement of the problem

Land invasions in Vrede Town are increasing leading to the emerging of informal settlement(s), spatial planning strategies are needed to provide a solution to the challenge. This research therefore seeks to propose a spatial planning strategy to address land invasions and halt emerging poses a significant challenge to future commercial and residential developments. To address this, we have introduced spatial planning strategies that enable us to tackle land invasion and informal settlements, which are major obstacles to future development. To address this, we have introduced spatial planning strategies that enable us to tackle land invasion and informal settlements, while also providing access to basic services.

1.4 Aim of the research

The study aims to propose spatial planning strategies to curb land invasion and emerging informal settlements in Vrede, a small town.

1.5 Objectives

(a)To characterise land invasion and emerging informal settlement

(b)To highlight the drivers of land invasion and emerging informal settlements

(c)To propose a sustainable human settlement strategy that can address land invasion and emerging informal settlements in Vrede town.

1.6 The main research question

How can spatial planning strategies address land invasion and emerging informal settlements in Vrede town?

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1.7 The research subsidiary questions

Research questions	Research subsidiary questions
What are the drivers of land invasion and emerging informal settlements?	1. What are the causes? 2. Who are the stakeholders? 3. Why is land being invaded ? 4. What are the challenges? 5. Are there any opportunities?
What are the characteristics of land invasion and emerging informal settlement in Vrede town?	1. Where are the land invasions? 2. How do they look like? 3. What is their spatial spread? 4. How does the informal settlement look like? 5. Is there a relationship between land invasion and informal settlement?
To propose a sustainable human settlement program that addresses land invasion and emerging informal settlements challenges in Vrede town, and other small towns experiencing similar challenges in South Africa	1. Is there a need for a human settlement program? 2. Why is a human settlement programme significant? 3. What is the constituency of the suggested programmes

1.8 Hypotheses

1.8.1 Alternate Hypothesis

There is a substantial nexus between land invasion, emerging informal settlements, and spatial planning strategies.

1.8.2 Null Hypothesis

There is no strong nexus between land invasion, emerging informal settlements, and spatial planning strategies.

1.9 Significance of the research

It is essential that the study identifies stakeholders who will benefit from the study, including those who will receive physical development, donations, policy formulation, community protection, or

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future research opportunities, thereby enhancing the knowledge development of Vrede town. The identified stakeholders not only benefit but also have the power to make informed decisions about addressing land invasion and emerging informal settlements, which pose a threat to community and human safety. This study will provide recommendations on how the municipality can overcome this challenge and efficiently render services to the community, ensuring a safe environment in accordance with SPLUMA and the Constitution of South Africa.

Firstly, the municipality as a stakeholder will benefit more in a manner that it may take the data collected and incorporate it into their IDP to address the existing issues and be able to formulate a framework to address land invasion and emerging informal settlements not only within Vrede but in all towns under Phumelela local municipality, thus Warden and Memel. The data collected from this study may assist the municipality in developing a feasible spatial planning strategy that is implementable in practice to address the challenge of land invasion and land development, as previously mentioned in the SDF, by learning from the experiences of other towns, cities, and countries worldwide.

Amongst the stakeholders who are to benefit from the study is the The South African Police Service is better positioned to reduce the high crime rate within the informal settlement and the surrounding areas. According to the Phumelela Spatial Development Framework (2024), Vrede has been recorded as the first town with the highest crime rate of all towns under the Phumelela municipality, which has been recorded as a development constraint of the town. However, if there were no informal settlement it would be easier for the SAPS to eliminate the current criminal activities since there would be access to the residential area.

Local dwellers stand to gain access to sustainable service provision. At the same time, officials and health care providers will have easy access if there is an emergency, with this study being conducted and suggesting the use of one investigated spatial planning strategy to create a habitable human settlement to address the challenge of land invasion and informal settlement the local dwellers will have a safe and sound environment to live in. Mavakgeng (*Vrede informal settlement*) is waterlogged. As a result, it has been written off by Human Settlement as a residential area, hence a liveable and reliable area with a healthy environment is needed.

Town planners conduct studies in various places, enhance knowledge gain across different levels, including international, national, district, and local levels, and providing ideas on how to overcome challenges faced within their respective communities. Not only will town planners benefit from the collected data, but IDP managers, councillors, and developers will also gain, ensuring that all

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stakeholders make informed decisions in project development, implementation, and the economic growth of the town and the municipality.

1.10 Scope of the study

This study will focus mainly on Vrede town and delve deep into its informal settlement known as Mavakgeng. Vrede Town and its township has an area of approximately 1680.71 hectares and its socio-economic development revolves around agriculture with specific reference to dairy and meat products, while Mavakgeng informal settlement is approximately 28.2 hectares as per Phumelela Spatial Development Framework (2022). The map below illustrates the boundary of the informal settlement of Mavakgeng as the study area.

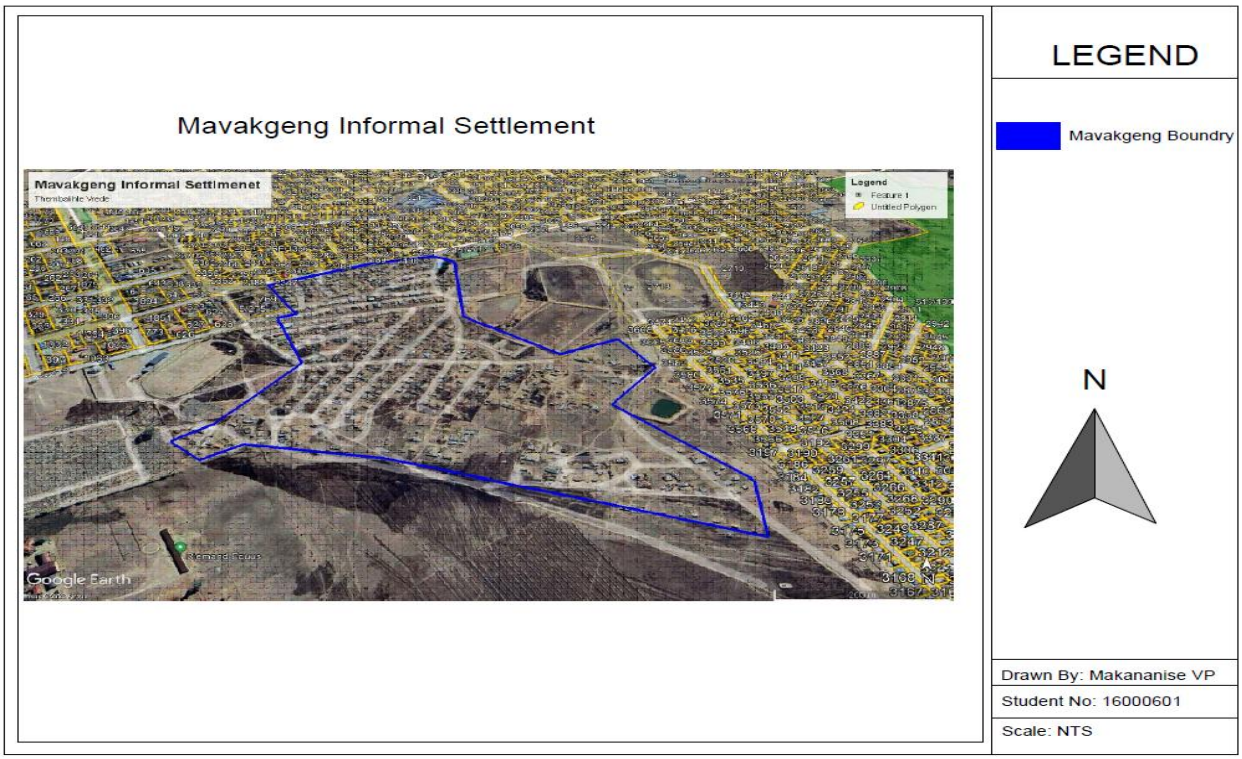


Figure 1-1:Mavakgeng map

***Source**: Makananise, 2023, adopted from Google Earth Pro*

Temporal scope

The study being conducted will focus on the post SPLUMA period, thus from 2015 when the legislation was put into place to date 2023/24 period. The reasons behind using the post SPLUMA era is to unpack how its objectives have been aligned with the National development plan vision 2030 objectives and how local governments across the country have aligned their frameworks.

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1.11 Conceptual scope

The central concepts which the study will focus on are Land invasion, informal settlements, small towns, and spatial planning strategies.

1.12 Theoretical scope

Theories will be introduced and unpacked for the study including but not limited to the Theory of space production by Henri Lefebvre together with the Voice exit and loyalty model, the systems approach

1.12.1 Space production theory

Politics and politicians significantly influence the production of space and living space, with the potential to have either a positive or adverse effect. According to Henry Lefebvre, space plays a crucial role in shaping our social and cultural interactions (Henri Lefebvre, translated by Donald Nicholson-Smith, 2023). According to Henry Lefebvre (1991), space should be utilized as a planning tool to address the lack of land challenge, and this study specifically focuses on the land invasion and informal settlement issue. According to Bilge and Daghan , (2022) the relationship between catering for human society and maximising the use of open land is at all times aligned with political gain as space is a product (Henry Lefebvre, 1991).

1.12.2 Voice exit and loyalty model, the systems approach

The theory has been broken down into two models which are the voice exit that mainly focuses on the corporate constitutional framework together with law & economics frameworks (Bart 2013)

It is widely argued that Hichman's concept of loyalty integrates corporate law, economics, and the corporate constitutional framework. This study will adopt this approach to foster trust and loyalty among officials and residents who raise issues within the informal settlement. The model will be applicable to public corporations and stakeholders who will be the link between the framework and implementation of the law of spatial frameworks (Bart 2013)

Ebenezer Howard's GardenCity movement theory

The garden city movement theory was established by Ebenezer Howard in the publication Garden cities of Tomorrow in 1898 (Eden, 1947). The concept gained influence by addressing the concept of self-contained small towns surrounded by greenbelts (Admin, 2020). The garden city movement at the time of its establishment was aimed at resolving issues of industries posing health issues to residents through the creation of small towns

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surrounded by green infrastructure (Admin, 2020). This study will adapt the movement to address the challenges of land invasion and emerging informal settlements, exploring how to bring about solutions.

1.13 Definition of key terms

- Densification strategy

Teller, 2021 defined as a design of objectives on significant policies and plans of achieving goals outlined according to the institution‘s plan (Jacques, 2021), the strategy may be articulated for a broader term as per the company’s desire thus to address challenges of land, economic and housing development together with adequate service access and provision (Makananise , 2019).

- Habitable space

Space which has been approved to be sustainable, liveable, and not only healthy but one which corresponds with the environment and the surrounding nature (Pere Fuertes, 2020), one where there is sustainable access to services for basic human needs (Olindwaho and Ndaelo, 2020).

- Human settlement

Human settlements have been identified to define the people’s existence as they are often large spaces as in urban and rural places, formal and informal settlements where people live (Department of environmental affairs, 2015), they are often made up of different population sizes depending on where they are located either in formal or informal areas, they also promote social interactions however they are dependent on Environmental resources (United Nations Environment Programme , 2003).

- Informal settlements

According to Collier et al, (2018) an informal settlement can be defined as an area which has been developed illegally without complying with the By-laws of the local authority in charge, a space that has no access to service provision and at most an unhealthy environment with residents who have no legal right to claim land or housing.

- Land

Land can be defined as a tool that is utilized to govern restrictions and responsibilities of access to development especially when various land use rights are brought into question with politics playing a

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role in the misuse and invasion, this tool brings upon the question of land tenure, value, land use and development of cities, towns, townships, and rural areas (Stig et al., 2014).

- Land invasion.

Unauthorised land occupations have been said to be a challenge across the world. Land invasion can be defined as illegal occupation with no rights to housing or site, which causes permanent economic losses in most urban areas, as it results in emerging informal settlements (Mutero and Makwara, 2018).

- Municipality

According to the Constitution of the Republic of South Africa (1996), a municipality is a local sphere of government that holds the power to administer its local government affairs of the community within its jurisdiction, subject to national and provincial legislation.

- Small Town

A small town exists outside cities and can be defined as a node for the neighbouring city (Tang, 2023), it is a small area with medium to high population depending on the developments occurring especially un-farm and farm activities together with the provision of reasonable access to services by the local authority (Tacoli 2017).

- Spatial planning strategy

Stead and Nadin, (2008) defined spatial planning as the coordination or arrangement of land uses to address the contradictions amongst sectoral polices through the promotion of rational arrangements of land uses and development at any sphere of government. Previously it was defined as a strategy used in various European countries, thus as a spatial planning method to use by public sectors to positively influence the distribution of future spatial activities (European Commission, 1997).

- Sustainable development

(Attfield, 2015) defined sustainable development as a concept that encourages the usage of natural resources efficiently and effectively in a manner that allows the consumption of those resources to cater for future generations, thus by ensuring creativity, long-term goals, and empowerment of the community's innovation, such as space and infrastructure (Olindwaho and Ndaelo, 2020).

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- Sustainable human settlement

Olindwaho and Ndaelo, (2020), defined sustainable human settlement as a habitable space for human existence where there are collective benefits to sustain human needs such as related to right to land ownership, housing, proper access to services, transportation, and a healthy environment.

1.14 Description of the study area

Vrede town is a small town located within Phumelela Local Municipality which is within the area of jurisdiction of Thabo Mofutsanyane District Municipality in the eastern portion of the Free State Province. The Provinces of Kwa-Zulu Natal and Mpumalanga, the southern boundary by Maluti-A-Phofung Local Municipality, and the western boundary by Dihlabeng, Nketoana and Mafube Local Municipalities border the eastern boundary of the Vrede town. Below is the map describing the study area from the Map of SA, the local municipality, Vrede town and channelled down to the informal settlement.

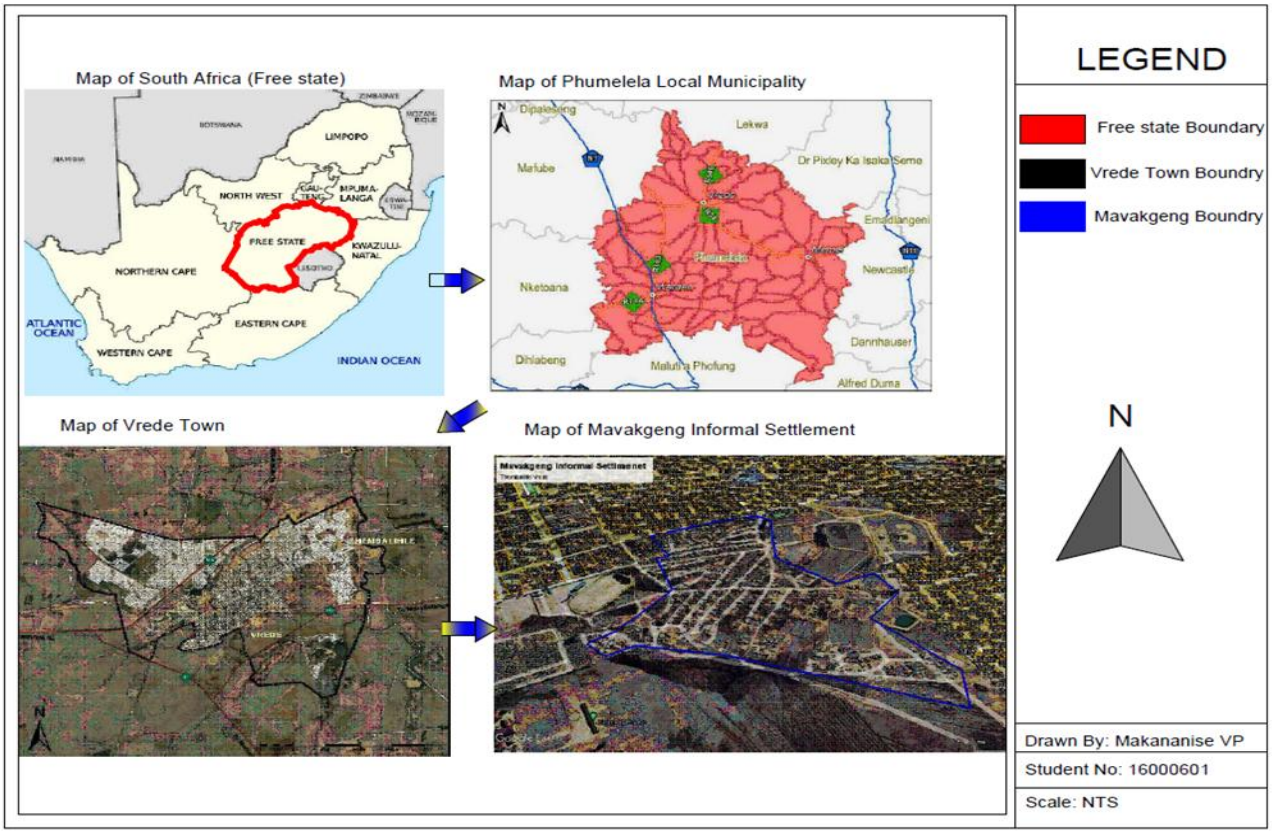


Figure 1-2 Locality map

***Source**: Authors map, 2023, adopted from Phumelela SDF*

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The map attached summarises the locality of the study area derived from the country map to its locality

Administrative issues

The municipality does not have a Housing department; however, it is equipped with a Town Planning Department and a Human Settlement Unit that handles and resolves any emerging housing challenges for all three towns. There are no funds reserved for Human settlement projects. Consequently, the Planning Department, in collaboration with the Human Settlement Unit within the institution, requests funding from the Department of Human Settlements to support township establishments within the municipality, thereby addressing the issues of land invasion and informal settlements.

Although the Department allocates funds and gets consultants to do the Application and studies, there are always political agendas that hinder the process of site allocation, as politicians have their people, which negatively affects the motion to comprehensively address issues faced by the municipality.

Environmental issues

According to the Phumelela Spatial Development Framework (2022), Vrede Town is a fertile land surrounded by agricultural production and some of the largest Agricultural produce companies in the Free State, which also process meat in large numbers. Although a large part of the land is fertile, there are areas that are not fertile and are deemed unfit for use, either for agricultural purposes or housing purposes, including the informal settlement in Vrede (Mavakgeng).

Climatic conditions

The Phumelela local municipality is mostly surrounded by wetlands that have been a result of rainy seasons. This has been proved by studies that were conducted at Mavakgeng to determine whether the area is stable enough for human settlement. The informal settlement in question is waterlogged and has been since deemed unfit for settlement to form. The climate of Phumelela changes in the long, medium and short terms depending on seasons and years (Phumelela Spatial Development Framework, (2022).

Population and demographics

According to the Phumelela IDP, 2024 the population has increased to 52 224 from 50054 that was recorded from 2016 statistics with the difference in growth of 2 170.

Table 1: Shows population of Phumelela local municipality and population growth. The population for the municipality has increased between 2016 and 2022 with intercensal growth of 2 170 thousand (Statistics SA, 2022).

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Total population		Population intercensal growth (2016 - 2022)
Census 2016	50 054	2 170
Census 2022	52 224	

Table 1-1: Population Intercensal Growth (2016-2022)

Source: Statistics South Africa, 2022

Population pyramid by age group and gender: Phumelela Local Municipality 2022

The figure below displays that, in 2022, Phumelela local municipality males had the highest proportions for the age group 15-19 than females. As age increases the population decreases. Female numbers started to increase from the age of 25-29, whereas male numbers decreased from the age of 25-29 (Statistics SA, 2022).

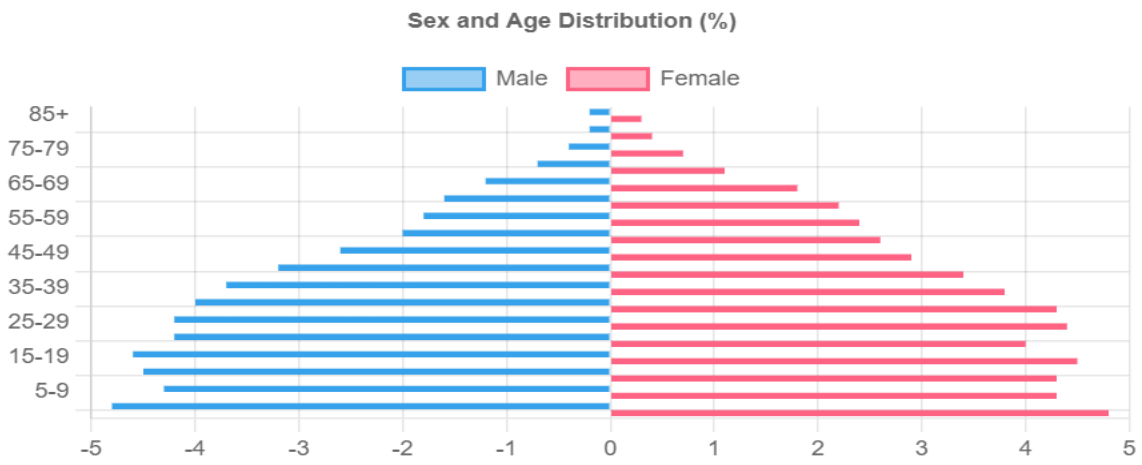


Figure 1-3: Sex and Age Distribution

Data source: Statistics South Africa, Community Survey 2022

Population distribution of Phumelela Local Municipality by functional population group

The figure below shows that the municipality consists of a large number of Black African population (47,610) followed by whites (4,078), Indians/Asians (369), coloureds (122), and then others (42).

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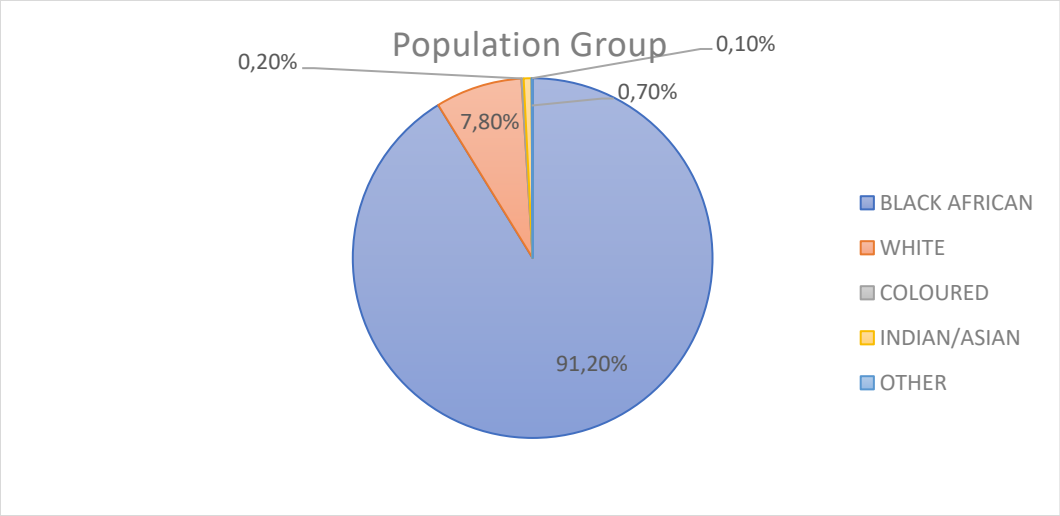


Figure 1-4: Population Group Distribution

Data source: Statistics South Africa, Community Survey 2022

1.15 Chapter layout

Chapter 1 of the study will provide an introduction to the topic, outlining its scope and significance. The layout will outline the goals, aim, and research questions, as well as the scope of the study, in both descriptive and map formats. Definition of key terms will be provided, followed by an outline of the study's importance, hypothesis, and problem statement, which drives the study's purpose.

Chapter 2 presents a literature review that spans the international to local levels. This review aims to better understand how other countries address the crisis of land invasion and emerging informal settlements, particularly through the utilization of spatial planning strategies in human settlement programs. To better understand other studies will be crucial in this study when making recommendations to address the issue of land invasion and the emerging informal settlement of Vrede.

Chapter 3 will provide an in-depth literature review, spanning international to local levels, and assess legislations and policies that have been or can be used to address land invasion and emerging informal settlements both internationally and nationally. Chapter 4 will outline the methodology and the methods of data collection, which will be used together with the presentation of data analysed.

Chapter 5 will examine objective number 1, which is to characterise land invasion and emerging informal settlements in Vrede town. In contrast, Chapter 6 will revise objective 2 and unpack the

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drivers of land invasion and emerging informal settlements. A recommendation for spatial planning strategy, listed as object 3, will be unpacked in chapter 7. This will help understand how the strategy addresses the challenge and how the municipality can develop its human settlement programs, either by adopting best practices from other municipalities or by examining the current land developments of the Phumelela local municipality. Chapter 8 will conclude by providing recommendations for the entire study and identifying other areas for future research, based on the study's findings.

1.16 Chapter summary

Chapter one was an introduction to the research on land invasion in emerging settlements and how spatial planning strategies can be investigated to curb the challenges Phumelela Local Municipality is currently facing. This chapter introduced the problem, aim, objectives, research questions and the background of the study from the international to the local level. Chapter 2 below will be an introduction to the literature review and a look into concepts and other case studies that will be adopted and applied for this study.

CHAPTER TWO: LITERATURE REVIEW THEORIES AND CONCEPTS

2.1 Introduction

The chapter reviews studies conducted globally, nationally, regionally, and locally to acquire knowledge on how they managed to curb land invasion and informal settlement challenges in small towns, and how spatial planning strategies can be applied. The chapter will examine four major concepts and theories, supplemented by case studies from other areas, to understand better how land invasion leads to the emergence of informal settlements in small towns.

2.2 Unpacking The Major Concepts

This section of the chapter will unpack the main concepts of the study including informal settlement, small towns, land invasion, and spatial planning strategies. The investigations will examine areas from the international to the local level to gain a deeper understanding of what other researchers have said.

2.2.1 Informal settlement concept

(Kachenje, 2019) informal settlements are places or areas which have been occupied without relevance evidence of ownership and the residents do not abide by the specific formal rules enforced by the national legislation and adopted by the local authority on how to regulate development on land. Local government authorities are often blamed for unplanned informal

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settlement growth although informal settlements form outside the existing planning regulations that have been put in place to be adopted (Lai et al., 2016)

Case study of Afghanistan, Kabul city

According to Collier et al. (2018), the city of Kabul, located in Afghanistan and within Central Asia, has approximately 6 million people who have been experiencing urbanisation for decades. The growth in population in the city was a result of neighbouring countries' war and in the end the unexpected, unplanned population made it difficult for the city to provide sustainable services to communities and became heavy on environmental resources. A municipality, government or a city may plan and have a framework that address the future plan of development for the people. Still, such frameworks take time just like how Kabul city master plan aimed at accommodating over 8 million people, however 20% of the plan had been implemented hence the 80% resided in informal settlements (NYU Urban Expansion Program, 2017).

Afghan cities show the potential to develop socially, economically and efficient state building successfully, however the issue is that Afghan cities do not have effective urban policies which can be adopted and implemented to address the issues to do with informal settlements growth and unexpected population growth (Government of the Islamic Republic of Afghanistan, 2015). Other studies have shown that the adoption of an innovative growth approach would successfully address the issues of informal settlement, lack of land for development and the growth on the use of environmental resources as used successfully in Chinese cities Amiri and Lukunwena, (2018). According to Amiri and Lukunwena (2018), Kabul's cities are characterized by steep mountains, which are conducive to sustainable development, provided that proper management policies are in place to preserve land use. The state may adopt the infill development or redevelopment of the city to cater to more developments, people, and residential development in the city as the population is continuing to grow rapidly, therefore a Smart Growth principle plan may be adopted.

Case study of eZakheleni in Umlazi small town in Durban South Africa informal settlements

Difficult living conditions within the informal settlement of Ezakheleni in Durban South Africa brought upon questions and studies on how they are managing to live their day to day lives. Common issues that people faced and resulted in them moving into the informal settlement in Ezakheleni were mostly about those of the global issues which are related to better access to services, education and land for residential development (Busisiwe et al., 2021). The increase in informal settlement settings in Durban resulted from the city's diverse economic activities,

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including manufacturing, tourism, finance, trading, and transportation, which attracted people seeking employment opportunities (Richards et al., 2007).

Conducted studies have suggested that the lives on people residing in informal settlements have to be well taken care of in manner of upgrading the informal settlements and provision of services to the communities. However, there are debates as to how the living conditions should be improved and whether the method will not promote more informal settlements setting (Brown-Luthango, et al., 2017). It was then suggested that the local government should adopt and implement the use of revitalization policies to assess and improve the living conditions of the people residing in Ezakheleni, Umlazi (Busisiwe et al., 2021).

2.2.2 Land invasion concept

Case study of Mindolo North municipal township Land invasion (informal settlement) in the city of Kitwe, Zambia

As much as most studies have negative view of emerging informal settlements resulting from land invasion within their cities and towns, most land invasions often results into emerging informal settlements that tend to adapt to formal ways of existing to be formalised and some to better the image within urban areas (Munshifwa, 2019). According to studies conducted, it was shown that most of the causes of land invasions' growth in Kitwe were a result of poverty and lack of access to services, leading to severe socio-economic issues and the waste of land for potential social and economic development (Ali and Sulaiman, 2006).

Most growing illegal land grabs which are also known as land invasions across the globe are said to be growing as a result of resisting eviction and adapting to the state information so that they may better organise how they operate (Jones, 2017). Scholars have urged that the resistance of communities to move from the informal settlements of Kitwe in Zambia that formed from unauthorised land grabs can be described as a call for the government to use the bottom-up approach in planning where plans are not only enforced but planned with the community (De Beer and Oranje, 2019). Land invasion does not only occur in informal settlements but there are cases where land invaders reside in formally established settlements with access to services and sites, but they are not the rightful owners in documentation (Munshifwa, 2019). Many studies have shown that several cases rapidly grow and there is always an assumption that the local government will formalize the informal settlements and land.

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Case study of Johannesburg land invasion National level: Johannesburg land invasion

Johannesburg Metropolitan Police Department (JMPD) took it upon itself to clean the city of Johannesburg through a strategy of demolishing buildings constructed on invaded land and taking materials from those who were grabbing land illegally. JMPD conducted a mission to identify hotspots that stimulate high land invasions, leading to informal settlements, disorganised human settlements, inadequate service provision, and a negative image of the municipality.

The department is not only working alone but in a collective manner where they go to court to get a court order to evict those who are already residing illegally, though other stakeholders of the municipality and the province are assisting towards the goal of cleaning the city (Masilela, 2022). It is not up to the municipality alone as the stakeholder to address issues relating to land invasion or informal settlement but a collective form that can address the issues related to land grabs within the local government like how JMPD was supported by other stakeholders to ensure they prevent the challenge of land invasion.

Case study of Vrede town

Land invasion does not only happen for residential purpose alone, but however residents may also invade and for livestock or agricultural purposes which in this case it has occurred. Before the informal settlement was established and grew, residents stole land to farm and sell their produce and rear livestock. The primary purpose of invading the municipal land was to establish homes for their families; however, when other local residents saw this, they invaded the land as well. After a few people occupied for residential purposes, Mavakgeng started expanding to what it is today from a few farms to now over 300 households established with no legal rights to land ownership and services.

Land invasion does not only happen for residential purpose alone, but however residents may also invade and for livestock or agricultural purposes which in this case it has occurred. Before the informal settlement was established and grew, residents took land illegally to be farm and sell their produce and raise livestock's. This was the main purpose of invading the municipal land, however when other local residents saw this, they then invaded the land with the aim of establishing homes for their families. After a few people occupied for residential purposes Mavakgeng started expanding to what it is today from few farms to over 150 households established with no legal rights to land ownership and services.

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2.2.3 Small developing towns concept

Small tows form part of the settlement hierarchy where they are divided into two a small town and a large town depending on its land uses population dynamics and redistribution. According to (Butler et al., 1970) small towns are defined as a town characterised by minimum amount of existing buildings and land development which have between 1 000-20 000 people as a total population (Hinton, David A., Sally Crawford, and Helena Hamerow, 2011). Large towns are said to have well planned developments and increase households thresh compared to the small towns with a population ranging from 20 00-100 000 characterised by better roads designs and better service provision (Richard 1966).

Derived from the SDG's goal 11 best describes what small towns aim on achieving, sustainable cities, towns, and communities its focus on economic and social development of the town (Tovma, et al.,2023). Small towns are often associated with challenges relating to economic, infrastructure, environmental, communication, segregation etc (Tovma, et al.,2023) however, Vrede town might be struggling from some issues, but the municipality is trying to address the issues per the provisions of SPLUMA. Chong Chen (2016) suggests that small towns should focus not only on building socialist towns but also on implementing strategies that encourage efficient, balanced rural-urban development, with a greater emphasis on economic hubs rather than residential areas.

A case study of a small town of Zelenodolsk in the Republic of Tatarstan was conducted and a smart city concept was suggested to improve the transportation system of the town as smart city concept incorporates of 6 indicators: Smart economy which is defined as and economy that does not rely on the support from its local municipality but sustains its growth through the growth and production in various departments of the area, in which Vrede would rely on Agriculture. Meanwhile Smart management is the management of a smart town does not only require authorities but an engagement where the planning approach used is the bottom-up approach to ensure that communities are aware of developments in their land and how they benefit. The two factors cannot form without Smart citizen which according to Manchester, and Cope, (2019) smart citizens include the ability of citizens to be creative, equipped with knowledge to sustain the natural resources they have with a large outcome.

In quest to promoting Smart life all component integrates all 6 components of smart city, the uniqueness of a smart life is dependent of the cultural and ecological system of the area (Kumar, 2020), which leads to Smart environment that is carbon free and encourages the development of green infrastructure, which is supported by the Department of forestry, fisheries, Agriculture and

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the environment through a program called Greening by planting of trees. Together with the creation of Smart mobility even though there are various types of mobility's individuals prefer but in creation of smart town and sustainable environment, we look into mobility that does n0ot only cater for the use of vehicles but bikes to reduce carbon emissions.

According to Chong Chen (2016) the state of roads in small towns keep worsening up since they are not maintained compared to cities and they are at most connecting economic hubs from neighbouring towns and regional roads (Serova, 2017). This is the same situation in Vrede town which connects Mpumalanga and KZN economic hubs. Current challenges that small towns are faced with relate to transportation and provision of quality infrastructure for life support of not only the residents but the town, thus promoting sustainable development concept by using resources effectively and efficiently (Nikolaeva and Sakhapov, 2020)

Studies shows that is it possible to improve the modern lives of small towns, thus by improving quality of life, environment they live in, and the infrastructure being used through smart city concept which then encourages the use of spatial planning strategies. As such Vrede town can explore the implications of feasible spatial planning strategies to better the lives of people not only residing at the informal settlement but also the whole community.

2.2.4 Spatial planning strategies concept

According to Sartorio, (2005) he urged that what was regarded as strategic planning in the past years can be defined as a set of concepts put into planning as one today, they can be referred to as tools and procedures to achieve proper planning. Spatial planning strategies or strategic planning has been used to the modern design world to provide for the current planning needs and the provisions of social inclusion and development of either cities or small towns (Abdallah and Langley 2014).

Although spatial planning strategies were underrated in the olden days there was an increased call in favour of a re-introduction of statutory comprehensive spatial strategies which were adopted mostly at the regional levels of countries like England to improve integrated economic growth and address exacerbating spatial inequalities that went either towards cities or small towns (Ziafati et al., 2022).

The main aim of the strategies was that institutions, especially governments, could, through the use of policies, integrate transportation planning and human settlements to create employment. Spatial planning systems are prepared to manage with contemporary regional and urban

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challenges in small towns and other urban areas because they strongly depend on their own capacity to promote integration between policy sectors in all spheres to ensure there is sustainable resources to supply for all (Nadin et al., 2020). Governments have used visioning and multi-actor collaboration (Nadin et al., 2020), alongside regulation, in a deliberative planning process to encourage more coordinated action to shape spatial development as strategies (Albrechts, 2001).

Spatial planning strategies respond adaptively to changing societal and political conditions, and to involve and engage citizens in decision-making processes which in this study will be influential as we need a Bottom-up approach to planning (Albrechts, 2015). The use of Bottom-up approach will ensure that the complains of Mavakgeng residents and Vrede small town as a whole be heard by politicians and municipal officials as they form part of the Government believed to hold the power to provide adequate services. Phumelela municipality to successfully use spatial planning strategies to create habitable human settlements while addressing the challenge of land grabbing and emerging informal settlements we should see the initiative of ladder of participation top ensure all have voices and they are heard (Arnstein, 1969).

2.3 Theoretical Frameworks

The section will look into 3 main theories reviewed to inform the study and how they can be related to the challenges faced together with how their ideas will be adopted to address the concepts of the study:

2.3.1 Henri Lefebvre's Theory of the Production of Space

The physical and social environment matters in the process of space production to channel the wellbeing of humans and the creation of safer human settlements with no harm to community members' health. (Schneiders, et al., 2023) urges that the dynamics of space production promote social cohesion and communication amongst communities. According to Christian (2019), successful production of space can be achieved through critical communication among residents and political freedom. Henri Lefebvre's Theory promotes integration within citizens and not only social cohesion but cultural cohesion as well (Christian 2019). The spatial perspective of creating an organised physical environment that is accommodating is critical spatial planning and distribution (Raka 2003).

Spaces are produced through the organisation of spatial distributions and land allocations for development, this does not only include the aspects of societies but the use and access of infrastructure (Wilhoit, 2018). The issue of land/space within small towns has increased due to

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the increase populations and higher demand of housing places of residence. This theory focuses on great deal beyond geography but spatial turn and the need for proper planning to accommodate all stakeholders (Christian 2008). The production of spaces debates with regards to which developments are crucial, and they can be used to address issues at hand, in this study will be to address the challenges of residential spaces in Vrede small town through the adaptation of spatial planning strategy, thus, to encourage mixed use development.

(Lukasz 2008) Planned physical spaces ensures that there is an elimination of isolation about developments and residential space together with racial related issues which NDP vison 2030 is trying to address as well. However, in discussion it is essential for each study to stress how important it is for planners or stakeholders to understand that politics can be a hindrance to development and aesthetics becomes a mechanism rather than experience (Sara 2008). Most of French suburban areas have adopted the use of the theory for space production and it has been a success (Stefan et al., 2008). Local politics in most cases goes in hand with urban planning though the two might clash with disagreements but the aim is to benefit communities and issue they have proper planning in place (Auerbach Gedalia, 2012). Planning always at most get influenced by political decision and gain to increase the proportions of goals attained within development divisions (Dahl, Robert A, 1959).

2.3.2 Ebenezer Howard's Garden city movement theory

The garden city movement theory was established by Ebenezer Howard in the publications Garden cities of Tomorrow in 1898 (Eden, 1947). The concept became influential as it addressed the concept of small towns that were self-contained and surrounded by greenbelts (Admin, 2020). The garden city movement at the time of establishment was aimed at resolving issues of industries posing health issues to residents through the creation of small towns surrounded by green infrastructure (Admin, 2020). This study will adapt the movement to address the challenges of land invasion and emerging informal settlements, exploring how to bring about solutions.

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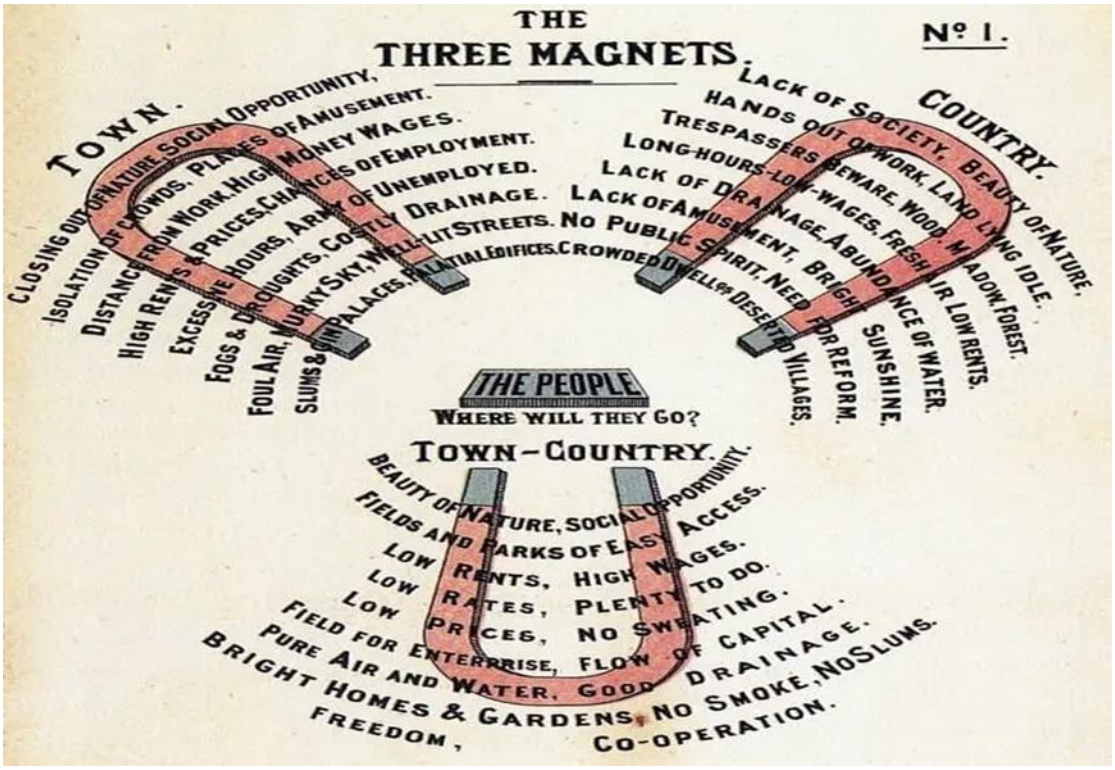


Figure 2-1: Garden city 3 Margnets

***Source**: https://planningtank.com/wp-content/uploads/2014/02/Garden-City-Movement-The-Three-Magnets.jpg?ezimgfmt=ng:webp/ngcb134*

One of the biggest challenges in resolving issues faced by communities are related to the socio-political agendas posed to communities (Fani 2019), and informal settlements can be transformed into uniform habitable human settlement that promotes the utilization of green infrastructure. 'Where will the people go?' is an appropriate question to ask when there is no land preserved for future generation, however the garden city movement goes hand in hand with spatial planning strategy to address the issues of misusing land and focusing on creating small towns that supports mixed use developments.

2.3.3 Hirschman's Voice, exit and loyalty model, the systems approach

The theory of Albert O. Hirschman's Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations, and States was developed in (1970) and has been broken down into two models which is the voice exit that mainly focuses on the corporate constitutional framework together with law & economics frameworks (Bart 2013). It is widely argued that Hichman's concept of loyalty integrates corporate law, economics, and the corporate constitutional framework. This study will adopt this approach to foster trust and loyalty among officials and residents who raise issues within the informal settlement. The model will be applicable to public corporations and

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stakeholders who will be the link between the framework and implementation of the law of spatial frameworks (Bart 2013)

The Hirschman theory focuses on exit, emphasizing the transition from public to private sector providers and the movement between public sector providers (Dowding and John 2007). In this study, the exit model will be employed to investigate how residents of the Mavakgeng informal settlement typically move from formalized sections in search of employment, only to end up residing in informal settlements lacking service provision. Most movements such as migration from towns into informal settlements are privately encouraged by politics as politicians have agendas to acquire votes (Dowding and Peter 2009). Some residents are moving due to a lack of income to pay for services in towns and reside in areas that are not spatially planned while they are in search of income (Dowding and Peter 2009).

Hirschman went on to stipulate the voice model which is related to private **voice** (complaining about private goods); voting; and collective action. According to Dowding and Peter (2009) residents vote to raise their concerns and be heard as promised which is not the case in most area. Votes are used to place politicians in power, once they are settled the needs of residents are forgotten thus, simply the provision of basic services (Guardian 2004). The voices of residents are not undermined in South Africa but it is a case globally that has been posing a challenge where voters voices are undermined this has affected the efficiency in developing small towns and creating accessible sustainable mobility that caters for all (Dowding and Peter 2009).

Since the theory was made up of 3 models Hirschman carried on looking into the **Loyalty** model, how loyal are the residents to their being and where they are resided, how loyal are politicians to the promises they make why canvasing for votes to the public. If the PPP is to be initiated, will the institutions remain loyal to the principle of serving the community, or will the argument be about who gains first? Hirschman introduced the concept of loyalty to understand why exit is often ruled out in certain contexts, such as the family, tribe, church, and institutions. The reasons include leaving behind what one has worked hard for (Barry 1974). Various scholars have identified Loyalty as a psychological variable, as it depends on how people perceive and feel about their environment. The Loyalty model formulation has found its place in the work of political scientists, particularly comparative and urban scholars, sociologists and social-psychologists, labour economists and management researchers in different spheres together with institutions (Dowding et al., 2000).

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Hirschman, (1970) as the founder of the model mentions that, “A member with a considerable attachment to a product or organization will often search for ways to make himself influential, especially when the organization moves in what he believes is the wrong direction’. Thus, in this study the informal dwellers feel that the municipality as a government institute has to make provision of housing and adequate human settlement. Creation and formalization of habitable human settlements is a priority to all government institutions as per the national legislations but there are tools/objects that hinders such developments such as funds. The model emphasizes group loyalty, where people stay together and make decisions collectively, especially in informal settlements where most residents do not leave unless the group as a whole is being catered for (Laver, 1976).

2.4 Summary of the theories

The three theories, including Henri Lefebvre’s Theory of the production space, address how space can be utilized as a tool. Spaces are produced through the organization of spatial distributions and land allocations for development, provided the planning structure is well-organized. Ebenezer Howard’s Garden City movement focuses on addressing socio-political agendas posed to communities and promotes environmental and infrastructure management, while Hirschman's Exit, Voice, and Loyalty looks deep into the movement between areas like towns and locations looking for better opportunities and communities being able to speak up about the challenges they are facing. They all speak to the sustainable and efficient use of land as a tool to stimulate growth and order within spaces. The theories encourage the growth greening and environmental management which giving residents an opportunity to plan with their authorities, thus eliminating political power in planning (inclusivity in planning). Characteristics of Informal settlement

As defined by Kachenje (2019) informal settlements are places or areas which have been occupied without relevance evidence of ownership and the residents do not abide by the specific formal rules enforced by the national legislation and adopted by the local authority on how to regulate development on land. They are settlements where residents are without relevant land tenure or title deeds as they are unlawfully occupied, and they are characterised differently.

2.4.1 Access to water supply

One of the constitutional rights is to have adequate and sustainable access of water supply for all and thus far the Government has been failing to manage such provision (Chikito 2009), however there has been efforts put into place to address the challenge faced by several communities. Demand for water supply has not to date met the demand since apartheid era as the population

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is growing rapidly and there are high numbers of migration which put pressure to measures in place for water supply (Stockholm 1999). The informal settlement in question has over 300 households existing with few households that have access to water in their yards, the municipality has made provisions for water through JoJo tanks, and it supplies water during designated days. The lack of water has been a significant issue, as many households are connecting illegally. This practice not only strains the municipality and tempers but also interferes with its planning.

2.4.2 Access to adequate Sanitation

Sanitation is usually referred to as the provision of facilities and services for the safe disposal of human urine and faeces which is crucial as it poses human health hazards and has been identified as a major problem in informal settlements (Chikito 2009). According to Jiaqi et al., (2020) the building density existing needs to be controlled to improve the living conditions and land use efficiency through proper provision of sanitation facilities in formal and informal settlements. Mavakgeng informal settlement has minimal access to adequate sanitation facilities, as other residents are still using pit latrines, which are collected on designated days of the week.

2.4.3 Waste management and collection

Waste mismanagement has been identified as the highest cause of health hazards to informal dwellers not only in South Africa but also in other countries as well (Chikito, 2009). Waste management differs in developing and developed countries as they implement various strategies of addressing the challenges. The residents discard their waste in open spaces, which has led to diseases such as cholera. Informally, the residents have identified their dumping site, and the municipality has made efforts to collect waste and clean the area weekly. The schedule implemented have been working to reduce adverse environmental effects such as wind-blown litter, attraction of vermin, and generation of liquid leachate and proper waste collection is a constitutional right (Reed 1995).

2.4.4 Settlement accessibility and connectivity (roads)

Settlement accessibility refers to the capacity of an area to be accessible by either pedestrians or motorised modes of transportation which are safe and sound for all users, particularly for large areas (Department for Transport, 2007). The settlement is situated on the main street of the Vrede location, known as Thembalihle, which serves as a traffic route to the main town and links to other roads leading to KZN (Newcastle), Mpumalanga (Standerton), and Gauteng (Phumelela Spatial Development Framework, 2022). Mavakgeng informal settlement lacks well-planned accessible roads, but residents have made efforts to ensure minimal access. The accessibility issues are often realised when there is an emergency which has to be attended to that's SAPS and

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Emergency attention in the area. The paths existing are eroded with huge potholes as a result of a waterlogged area especially when it rains the settlement is not accessible.

2.4.5 Land Tenure issues

Land tenure is often referred to as the relationship between land owners hold in respect to the specifies land use rights, it is often defined as the way in which property rights to land are allocated, transferred, used, or managed in a particular society (Payne 2004). The importance of land tenure is security, once it is secured, land can be a foundation for economic growth and development in a town and a province as a whole; nonetheless, when land rights are insecure, it may lead to community and political uncontrollable conflicts (United States Agency for International Development (USAFID), n.d.). Land tenure is still ignored the most in Africa which has had a negative impact in the development of the socio-economic aspects of countries, provinces and its towns (Bohannan, 1963).

Title deeds, as the legal documentation stating the owners of land, are huge aspects lawfully in identifying the landowner and the land use rights provided through the TitleTitle deeds, as legal documents, are crucial in identifying landowners and defining land use rights, as outlined in municipal Land use regulations. Land use rights are clearly identified and outlined, including their permitted use and consent uses that the municipality can approve for a submitted land use application. Residents of the informal settlement in this study do not have title deeds to the sites they have occupied, as land is being used unlawfully; the rights still belong to the municipality. As a result of land invasion, tenure challenges are subjected to fundamental political and the object of political discourse, and tenure relationships are embedded in and affected by inter-ethnic relationships (Feder and Feeny, 1991). The challenge is not only in Vrede but in South Africa as a whole.

2.4.6 Land invasion

Per the constitution of South Africa, the human settlement department has grown in terms of housing provision, and the government has made ways to ensure that residents are given equal opportunities to have access (Sonqwenqwe and Onke, 2021). As various provinces have developed economically, the employment opportunities presented have had a negative impact. This is because the number of supplies in terms of planning has not met the demand, and proactive planning for accommodation purposes has been lacking, leading to a high number of land invasions.

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According to the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act (PIE ACT) (1998), no authority or resident is allowed to evict an illegal occupier. However, they might be deemed to be located unlawfully. The Department of housing Directive, (2003) had this to say "Landlessness and land invasions are a stark reality in South Africa. Delays in the release of land and slow delivery of housing programmes have exacerbated the problem, as have unrealistic expectations and a lack of information, particularly with the time it takes to transfer land. This has led to urban land invasions and subsequent evictions by local and provincial authorities, as well as ongoing legal disputes. Some community groups who have been involved in planning land and housing developments on identified land have found their development brought to a halt by land invaders" derived from Department of Land Affairs, (1997) The White Paper on South African Land Policy.

Illegal occupation of land has since increased due to different pull factors into an area and continues to increase over the years with huge consequences to the local municipalities as they are planning backwards and not forward (Toe 2016). Like other municipalities in developing towns and provinces, Vrede faces the challenge of growth in land invasion, leading to the emergence of uncontrollable informal settlements (Phumelela Spatial Development Framework, 2022). The building structure are usually not up to standard in informal settlements; they are designed to cater for a short period of time as the owners are working for that time frame.

2.5 Chapter conclusion

Chapter 2 focused into literature review by looking into the study's major concepts and how they applied from international, national, and local level in planning together with what other scholars had to say. It also outlined theories in planning to better inform our study. Chapter 3 below will dwell on legislations and policies to better understand what the law has to say regarding our main concepts and concerns.

CHAPTER THREE: LEGISLATIONS AND POLICIES REVIEW

3.1 Introduction

The chapter will focus on the review of legislation and polices from an international level to the local level. In this chapter will look closely into the Provincial Spatial Development Framework and the Bylaw of Phumelela together with the Land Use Scheme Regulation to determine what role they play in increasing land invasions resulting into emerging informal settlements and/or how these polices may be used to curb the challenges being faced in Vrede Small town.

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3.2 Background of the study area

The informal settlement located in Vrede's small town, called Mavakgeng, was established over 20 years ago. The main reasons for the residents ' being on site were to farm and be able to cater for their livestock, although others migrated from other towns, cities, and countries in search of a better life and improved livelihood. Other reasons which have been outlined were lack of land for residential use. The municipality in partnership with the Department of Human Settlements Free State provided RDP housing in a designated space for residential purposes with full access to services, however, the municipality was not having a proper plan or framework in place to dismantle the existing informal settlement.

As a result, people moved to sites where there are services and housing leaving behind family members so they can also benefit from house provision by the municipality and Department of human settlement. To date, this has posed a threat to the development of Vrede town as the municipality is failing to provide sites and housing to cater for the increasing population, and the informal settlement is rapidly growing with the mindset that Local government should provide houses (Phumelela Spatial Development Framework, 2022). According to the Phumelela IDP, 2024 and STATS SA, the population has increased to 52 224 from 50054 that was recorded in Census from 2016 statistics with the difference in growth of 2 170. Phumelela holds 82.9% of formal households from 73% of 2011 with 11.3% being informal dwellings, 5.4 being traditional dwellings and 0.4 being others (Stats SA, 2022).

3.3 International Policy and legislation review

The purpose of this section is to review literature from international policies/legislations on what the law has on informal settlement, land invasion, spatial planning strategies, and small town at a national level as these legislations regulate the formation of national legislations and local frameworks.

3.3.1 Sustainable development Goals

Sustainable development Policy was made up of 4 pillars which are namely social, human, economic and environmental sustainability which from them the sustainable development goals were outlined. The concept is expected to bring about solutions in relation to meeting the provision of human basic services and integrating the environment as well as cultural diversity while ensuring the preservation of land for future development (Jiaqi et al., (2020) . Looking at the current situation of the country where population is increasing on a daily basis as a result of migration at most from other countries into South African cities and small towns due to what is

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believed to have jobs/growth opportunities, they offer either employment, educational, agricultural or place of residence (Jiaqi et al., (2020) .

There was an establishment of Sustainable development Goals as part of the post 2015 development agenda to create a global development framework which was established by the United Nations titled ‘Transforming our world: the 2030 Agenda for sustainable development’ in (2015), (United Nations General Assembly, 2015) to create a reliable and resilience communities (Jiaqi et al., (2020) , the goals are 17 and, in this study, we will adopt and look into all goals but focus more into No: 11 which states ‘Sustainable cities and communities.

The figure 1 below illustrates the goals which were comprised of the Sustainable development Goal policy that were stated each country will adopt to them as a guide towards creating liveable settlements.



Figure 3.1:Sustainable development goals
Source:
https://www.google.com/search?sca_esv=16d5bc79565112ea&sxsrf=AE3TifPmZoPlIlglzrLMNpQqZpMAwCjhEA:1755164486252&udm=2&fbs=AIIjpHxU7SXXniUZfeShr2fp4giZ1Y6MJ25_tmWITc7uy4KIeqDdErwP5rACeJAty2zADJgYJpo1blvMpITBRgbnARM6y8KwxzRsF24u6g33NutBQod-bHaq-BaxULyF1bB2Uqyl-vUCNqEkT_YgKWrg4nlgIgtJDN8PYh5ozrABIRQ5aXJDZxAIbMOAM9soz4Ir11tZ76Bv-Q6kZAI729A6TsfHvehHyw&q=sdg&sa=X&ved=2ahUKEwjO0eadgYqPAxXBQ_EDHYeCJv0QtKgLegQIIRAB&biw=1280&bih=551&dpr=1.5#vhid=4K5TK1rJd4GfzM&vssid=mosaic

The development of these goals from an international level has shown a greater lesson in addressing the situation of mostly the excluded communities and small towns as previously more focus was shifted to cities and development leaving small towns with the potential to develop behind (United Nations Human Rights, Office of the High Commissioner, 2020). The development of the SDGs was to have guidelines that would provide guidance to policymakers in the development of national policies.

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Sustainable Development Goal No 11

Goal 11 clearly states the importance of provision of adequate access for safe and affordable housing and basic services and upgrade slums either in cities or in small towns which Free State Department of Human settlement in partnership with Phumelela Local municipality together with other municipalities has been in the process of. The department sources funds to cover the process of Township establishment, provision of sewer, water, roads and electricity in various town. A proper upgrade of slums can be investigated to determine whether it is a viable spatial planning strategy. Creation of adequate settlements or communities will encourage the development of enhancement of access to safe, affordable, accessible and sustainable transport systems for all (Pietro 2020).

Goal 11 of the SDG states Sustainable cities which are said to be cities with the capacity to utilize natural resources to improve and encourage economic and residential development while preventing land invasion and urban sprawl Jiaqi et al., (2020) . . While sustainable communities post the apartheid era can be described as environments where there is promoted social development and integration amongst the residents with easy access to services and facilities (Pietro 2020).



Figure 3-2: Sustainable Development Goal, 'Goal 11'

Source: Valetia, *https://www.velatia.com/en/blog/category/blog-category-ormazabal_en/*

With only 6 years left, the aim of creating a timely, integrated, effective, and efficient world in resource preservation, the Vision 2030 seems to be working in some parts of the world, while others are struggling to implement the SDGs. Phumelela Local Municipality has been attempting

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to amend and review each SDF in accordance with the provisions of the SDGs and SPLUMA. Nonetheless, a framework outlining how these can be fully implemented to address the challenges of its towns is required, such as spatial planning strategies. This Goal will encourage a thorough development of Vrede small town together with other bordering small towns.

3.4 National legislations and frameworks review

The breakdown of National Legislation. Framework will introduce the relevant constitution and how it speaks to the main concepts in South Africa, followed by the SPLUMA, which then regulates the formalization of other Frameworks at the provincial level.

3.4.1 Constitution of the Republic of South Africa, 1996

Addressing the special consequences of land invasion and emerging informal settlements in urban areas and small towns has become a challenge as the constitution regulates the rights to housing for every resident and promotes integrated urban communities (Pietro 2020). The constitution encourages the development of socio-economic activities to ensure that the community benefits from access to adequate housing and essential services. Despite the challenges posed by the apartheid era in rural development, the alignment of the constitution, the SPLUMA framework, and the National Development Plan share commonalities.

Section 24 of the South African Constitution states that residents should have an environment that is well protected with benefits that suit for the provision of present and future generations, thus through a sustainable development strategy that includes land use planning and management. Meanwhile section 25 of the constitution emphasises the protection of property rights and measures that allows citizens to have access to land on an equitable basis, however regulated by local municipality's legislations to ensure that they have legal rights to occupy land and implement properties (land tenure).

The Constitution section 26 furthermore stipulates the importance of citizens to have access to adequate housing that includes equitable spatial patterns and sustainable human settlement. Phumelela local municipality as the local authority for Vrede communities has not been so far able to make provisions of sustainable human settlement for Mavakgeng residents nor make use of the available resources to meet the standards of adequate housing provision. Looking at section 27(1)*(b)* of the Constitution, 'to ensure that the State takes reasonable legislative measures, within its available resources, to achieve the progressive realisation of the right to sufficient food and water which is basic service delivery has not been achieved.

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3.4.2 Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA)

The framework was created, gazetted, and implemented as a national spatial planning regulation to be adopted by all local government as a guide towards the regulation of land use and spatial development, the Spatial Planning and Land Use Management Act 16 of 2013. One of the objectives of SPLUMA 'Spatial justice' aims at the elimination of the past spatial injustice which was enforced by discrimination such that all have equal land access opportunities (Pietro 2020). The principle of spatial justice, along with four other SPLUMA principles, aims to address the imbalance in emerging large informal settlements by providing efficient human settlements in local governments through the implementation of land use schemes.



Figure 3-3: SPLUMA Principles
Source: National Spatial Planning Data Repository, 2018

SPLUMA provides a framework for spatial planning and land use management in South Africa. The legislation is relevant to this study because the key development principles that the act contains supports the environment and promotes sustainability. Its principles as illustrated above are 5 and each has its own crucial role to play in the Development of small towns into cities and sustainable areas that preserves natural resource.

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"**Spatial justice"** – past spatial and other developments imbalances must be redressed through improved access to and use of land.

"**Spatial sustainability"** – promote land development that is within the fiscal, institutional and administrative means of South Africa, protect prime and unique agricultural land, comply with environmental laws and limit urban sprawl.

"**Efficiency**" – land development must optimise the use of existing resources and infrastructure, and decision-making procedures must be designed to minimise negative financial, social, economic or environmental impact; and

"**Spatial Resilience"-** flexibility in spatial plans is accommodated to ensure sustainable livelihoods through the use of adequate spatial planning strategies.

SPLUMA emphases on local government developing policies which regulate the spatial and land use management of communities through mixed use development to promote sustainable developed communities and healthy human settlements with access to basic services as per the constitution of South Africa **Invalid source specified.**.

3.4.3 National Development plan, vision 2030

The main aim of the plan is to eliminate poverty and inequalities within communities all addressed according to SPLUMA principles guided by the Constitution of the Republic of South Africa within all spheres of government, Local, provincial, and national, however being over seen by the local authorities and tribal representatives. The framework stresses the importance of building institutions which promote the use of carbon-free energy-producing infrastructure though the use of green infrastructure within and surrounding the town boarder. According to Pietro (2020) South Africa is ranked on of the progressing country in the African continent that is rich in mineral mining and natural resources, therefore it can boost the economy towards more inclusive society and economy.

One of the aims as per Chapter 5 of the National Development Plan, is to create and sustain an environment that is climate change resilience and dwells in coordinated planning while promoting the use of sustainable infrastructure and services. Adaptation of the National Development Plan does not only focus of the national level, however on how the local levels can adapt to the objectives and formulate frameworks which correspond to the existing information on ground. According to the NDP Vision 2030 local government must adhere to the vision and regulate frameworks that directs land use planning and management working together with SPLUMA.

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Phumelela local municipality in the quest to better the lives of its residents, there is a need for strategic planning in a systematic approach that works in addressing the issues of land invasion under the municipality and under Vrede small town (Pietro 2020). The (Orlando et al., 2017) stresses the need to address the post-apartheid challenge of equal access to opportunities and the need to create inclusive communities with equal development opportunities and economy. Adaptation of the NDP vision is essential in Phumelela LM in its quest to use spatial planning strategies to successfully overcome land invasion and informal settlement development within the town.

3.4.4 National Spatial Development Framework

The NSDF was formulated as a tool for National Spatial Development and Transformation at lager space, the tool will be used to inform all sphere's development of legislation formulation. The legislation will give effect to all relevant national policies, priorities, plans and legislation while coordinating and integrating provincial and municipal SDFs across the country. The framework aims to interpret and represent the spatial development vision of the national sphere of government across all spheres.

The framework will address the previously disadvantaged areas and provide clear and accessible information to the public and private sector and provide direction for investment purposes to ensure growth within the country (Department of Agriculture, Land Reform and Rural Development Planning, 2022). The document has raised points on the creation of sustainable dense human settlements with adequate service delivery and proper spatial development layout. The aim of ensuring spatial control is to encourage local authorities to elevate on land use zones and organisation on the ground.

3.4.5 Prevention of Illegal Eviction from and Unlawful Occupation of Land Act, 1998 (PIE ACT)

The main reason for the formulation of the PIE Act was to provide the prohibition of unlawful eviction of informal dwellers and provide proper procedures for the eviction of such unlawful occupiers/ invaders (The Republic of South Africa (Governmen), 1998). Section 8 (1) states that No person may evict an unlawful occupier except on the authority of an order of a competent court which includes the local authority especially if the occupier has been on site for over 3 months. The municipality is supposed to provide a place to live should they evict a person after 3 months, act goes further to stipulate that (2) No person may wilfully obstruct or interfere with an official in the employ of the State or a mediator in the performance of his or her duties in terms of this Act,

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thus if a court order has been received and the department has an alternative place for all informal dwellers to reside. A place which is well serviced with all basic services provided, safety and security confirmed by the Department of Human Settlement and the provided local official from relevant department of the municipality.

Other scholars such as (Kahanovitz , 2007) have reviewed the Act as a cause to huge security of tenure as it is viewed a shield to illegal grabbing of land and occupation as they are protected by the Act. (Kahanovitz , 2007) has argued that the adoption of the Act opened doors to migration and more illegal activities together with the increase of land invasion.

According to Joubert (2003) too address the challenge that the government has faced it initiated Land redistribution, land restitution and land tenure reform. The aim of Land redistribution was to make it possible for poor and disadvantaged people to buy land with the help of a settlement land acquisition grant. While Land restitution incudes the concept of returning land or compensating victims of land rights lost because of racially discriminatory laws, passed since 19 June 1913. The third component is Land tenure reforms which aims to bring all people occupying land under a unitary legally validated system of land holding and provides for secure forms of tenure, which helps to resolve tenure disputes and make awards to provide people with secure tenure (Kahanovitz 2007).

3.5 Provincial legislations and frameworks review

The section will focus on the review of Provincial frameworks which were adopted to inform the formulation of district and local municipal policies and frameworks. Thus, including the Free State Spatial development framework, and the FS provincial growth and development strategy.

3.5.1 Free State Spatial Development Framework

The Free State government made it a necessity that the province has a Spatial Development Framework to better guide its municipalities in following the policy while complying with SPLUMA and what its District municipalities require. Free State province has 5 District municipality with each their own local municipalities and each district has its well-known development and economic boosting driver. Vrede town falls under Thabo Mofutsanyane District that has beautiful hills and fruit farms, it forms the eastern part of the province and borders the Kingdom of Lesotho and Kwa-Zulu Natal.

The district has most of famous towns which includes Qwaqwa, one of the former Bantustans. The district is said to be one of the most important tourist destinations in the Free State, mainly

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because of the spectacular scenic beauty of the Drakensberg and Maluti mountain ranges together with Clarens located in Bethlehem Town. It has been stipulated on the FSDF that over the years there has been a rapid increase of population within the province as its small towns have been developing due to the increase of job opportunities and the fast-growing development of most Agricultural areas (Free state Provincial Spatial Development Framework 2015).

The Free State is relatively well serviced with infrastructure. It has the main N1 (Gauteng-Cape), N3 (Gauteng-KwaZulu/Natal) and N8 (Bloemfontein/Maseru) passing through. This suggests that areas along the main roads like small towns under Phumelela local municipality have potential for grown and development (Free state Provincial Spatial Development Framework 2015). The FSDF comprises some of the most crucial areas for development that the Phumelela local municipality addressed on its SDF and well-articulated in IDP to ensure its objectives are met and challenge faced are curbed.

- Enhancing economic development and job creation.
- Providing and facilitating the sustainable development of infrastructure.
- Investing in the development of the people of the province.
- Ensuring a safe and secure environment.
- Good co-operative governance with the sustainable use of resources and the environment.

3.5.2 Free State Provincial Growth and Development Strategy

The Free State Provincial Growth and Development Strategy is basically the fundamental policy framework for the Free State Provincial Government. As a policy framework it has over the years set the tone and pace for growth and development within the province. The Strategy addresses key and most fundamental issues of development, traversing the social, economic and political environment. The development of the strategy is based the following:

- National policies and strategies
- Provincial strategies
- Local Government plans (i.e. IDPs) and strategies

The strategy was informed by the above policies and legislation and the need to ensure integrated planning, which will facilitate the development to be delivered in the province in an efficient and co-ordinated manner. The need to populate such a strategy as a province has been reconfirmed both on a national and provincial level through legislations formulated to regulate strategical economic development and habitable settlements.

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The province, in pursuit of the above, specifically recognises the need to develop a management framework, tying in provincial planning with national policies, as well as with planning and implementation of spatial planning programmes at both departmental and municipal levels. Several initiatives, emphasises the need for co-ordinating the development initiatives both on a planning, as well as on a project implementation level, have been embarked upon in the past. Various strategic documents were prepared to guide development and the determination of priorities and objectives. The Provincial Growth and Development Strategy (PGDS) is considered a strategic document in as far as it ties provincial policies with national policies, while it spells out strategies on a sectoral level, which should serve as guidelines to district and local municipalities.

The PGDS is the overall strategic framework for the provincial government. It is the embodiment of the broad strategic policy goals and objectives of the province in line with national policy objectives. It constantly takes into consideration the annual provincial priorities and sets broad targets in terms of provincial economic growth and development, service delivery and public service transformation.

The province has since identified priority areas of intervention for growth and development. These priority areas are primarily based on the social, economic and developmental needs of the province, namely.

- Economic Development and Employment Creation.
- Social and Human Development.
- Justice and Crime Prevention.
- Efficient Administration and Good Governance.

The priority areas establish a common basis and broad guidelines for the future development of the province through adoption and creation of SDF together with its IDP's, Small towns such as Vrede will show growth and development in Human settlement areas and profoundly a decline in formation of land grabbing and informal settlement as F-PGDS will give guide in better spatial planning of the province.

3.6 District level policies review

The policies and Frameworks will look into the review of how Thabo Mofutsanyane as a district envision to grow and develop its local municipalities and towns by looking at the District Spatial Development Framework.

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3.6.1 Thabo Mofutsanyane Spatial Development Framework

Thabo Mofutsanyane District's Spatial Development Framework (DSDF) guides spatial planning, land development and land use management in order to enhance ways in which activities are situated within its local municipalities. Its main goal is to inform how local municipalities can achieve liveable, safe and resource-efficient district and all its local municipalities are socially integrated (Provincial Department of Cooperative Governance and Traditional Affairs 2022). The District SDF has also shown figures of how its populations over the years has elevated and it is rated one with the highest population in Free State Province.

The spatial vision of the district aligns with Phumelela SDF's vision, as stated: "Create a self-reliant and resilient district by preserving valuable green infrastructure, promoting areas with high agricultural potential, promoting development to protect biodiversity and promoting tourism" (Provincial Department of Cooperative Governance and Traditional Affairs 2022). The vision can be achieved by encouraging investment towards strengthening economic nodes and building transport corridors, one that this been stipulated in Phumelela SDF as a priority to encourage the development of transport corridors and invest towards economic nodes. This will create employment opportunities and ensure the municipality's development through the sustainable use of spatial planning strategies. The district's vision has a significant impact on development, as specific physical characteristics influence human settlement and development, which can also be informed by IDPs within local municipalities.

The figure below illustrates the envisioned transformation of Human Settlements by Thabo Mofutsanyane District municipalities, as outlined in the National Development Plan vision 2030.

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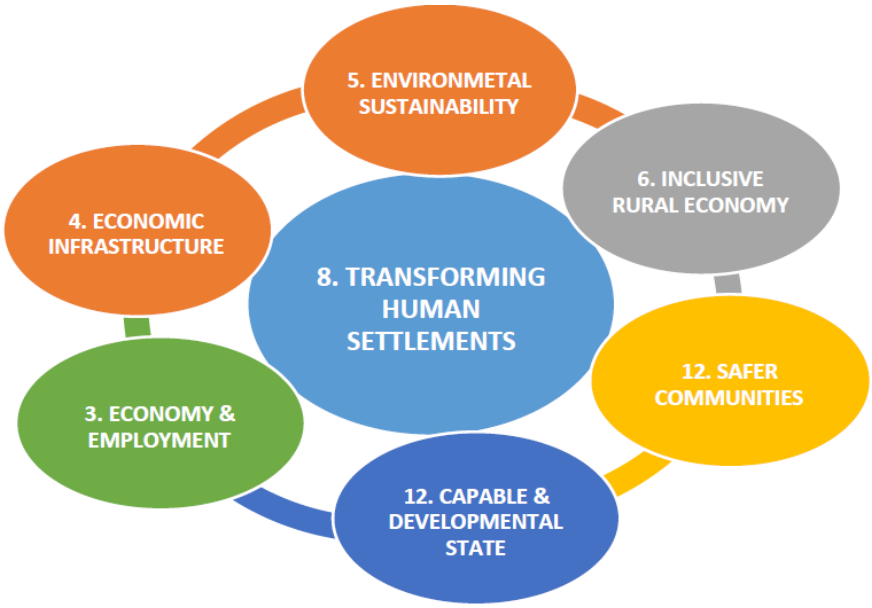


Figure 3-4: Transforming Human settlement

Source: Thabo Mofutsanyane SDF adopted from NDP, Vision 2030

3.7 Local level policies and regulations review

Phumelela local municipality has developed its Policies, strategy, bylaws, framework, and Land use Regulations by adopting the visions and missions of the province and the district municipality informed by the national and international legislations. The review will look into how the municipality envisions growing its small town, Vrede.

3.7.1 Phumelela Spatial Development Framework, 2022

The municipal spatial development framework of Phumelela was formulated and mapped out the existing and future developments of each town under the municipality, Vrede map, maps out land for future development (mixed use development) and the existing informal settlements. The SDF also shows places of land earmarked for future residential development, where, in this case, Human settlements are looking into addressing how services can be implemented in order for residents to be allocated. According to the recent Phumelela Spatial Development Framework (2022), various spaces in the town and township are earmarked for the establishment of low, middle, and high residential areas, as studies have proven them habitable. According to Lithole and Ndaelo, 2020) one approach which may be adopted when implementing the use spatial planning strategy in providing a habitable human settlement in Vrede town is sustainable economic upliftment through the use of existing natural capital for development (Orlando et al., 2017).

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The challenges that the municipality has faced in the past with regards to Mavakgeng informal settlement was that the Department of human settlement concluded the township establishment and service installation where residents in informal settlements were moved, however they did not all move due to the fact that the municipality did not have a policy in place to address how they can demolish or close down the area with developments. The SDF review has to clearly outline what the intentions of the municipality for the space may be in future, in this manner we will be able to address the informal settlements issues and the rise in crimes currently taking place.

The SDF suggested and outlined the need to populate strategy in Vrede town to address spatial planning management issues currently faced within the municipality and the town. It also stated that “there is still a room, albeit very small, for the adequate spatial planning” however the municipality has no framework in place for the implementation of the strategy. The framework has also put in place a way to achieve a consolidated urban structure and economies of scale which requires a high level of sustainable basic service provision and integrated transportation system using the existing infrastructure/resources. It has been suggested that sustainable spatial planning strategy should focus primarily on developing smaller infill pockets of land, urban regeneration and inner-city renewal strategies all guided by a framework from the municipality to collaborate a plan to control the outward expansion of residential settlements.

3.7.2 Phumelela Integrated Development Framework, 2024

The Phumelela Integrated Development Framework, as a strategic planning document, was developed as a legislative requirement from a national level view in South Africa. It requires an interactive and overall involvement of various stakeholders from different institutions, Government, and Private. As a strategic document the IDP is a need for all municipalities to ensure there is an achievement of sustainable development and efficient use of resources together with sources to ensure the growth and development of the municipality and the province.

There are different goals stipulated in the IDP and one of those includes ‘Sustainable cities and communities’ which goes further to state how make cities and human settlement can be made inclusive, safe, resilient and sustainable while utilizing the existing resources. The strategic plan goes further to stipulate the importance in transforming human settlements and encouraging well-articulated spatial networks and land use (Phumelela Intergrated Development Plan , 2024). There is a breakdown of how the municipality plans to improve in service delivery across the 3 towns within the municipality, this was informed by principles in SPLUMA, the NDP and District SDF.

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There are minimal plans as to how the municipality will eradicate Informal settlements that are emerging in Vrede due to lack of strategic policies that can be implemented. Although, the plan has indicated the need to provide residents in the informal settlement with services, there is no proper planning, access to the area, and it is waterlogged which the suggest that Mavekgeng informal settlement cannot be formalised. Spatial planning strategies are needed to address the issue of land invasion in Vrede small town as should it not, the continuous development of the town/Municipality will attract growth in informal settlements formation.

3.7.3 Phumelela Land use Scheme regulations, 2022

Phumelela Local Municipality formulated a LUS regulation basically as one of the schemes to regulating land use management, which include development rights and obligations relating to property, respectively referred to as “land use zoning categories”, land use zones, land uses and “development parameters”. These regulations were compiled to comply with the requirements of Chapter 5 of the Spatial Planning and Land Use Management Act 16 of 2013, as amended (hereafter referred to as “*SPLUMA*”).

The regulation will assist in the Municipality achieving and promoting economic development, efficient land development, social inclusion and Minimal impact on public health, the environment and natural resources. The main aim of the regulation is to promote spatial balance and land use development to reduce urban sprawl by ensuring integration in planning development. The scheme will assist in guiding and managing urban growth in this manner Vrede small town by protecting the amenity of the established land uses and eradicating illegal land uses and illegal land grabbers.

The scheme will ensure growth in integrated sustainable human settlements and development, efficient and desirable use of land by promoting sound environmental management. The content of the scheme includes different types of land uses, zoning requirements, permit and consent in all land use zones stated per the scheme. This has included but not limited to other building parameters like building lines and relaxation. The document was used in the formulation of the zoning map that clearly indicates the zoned future residential area within the surrounding location in Phumelela. All plans and development will be administered at a local level by local authorities to ensure proper and feasible land use management.

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3.8 Variables

The main variables that the study will adopt to better inform us include the dependant and independent variables. The variable will assist in analysis of data collected and they are as follows:

3.8.1 Dependent variables

- Land invasion
- Informal settlements
- Housing structures

3.8.2 Independent variables

- Space
- Spatial planning strategies
- Development
- Boundaries

3.9 Chapter summary

Chapter gave us the background of the study and an overview of the legislations, frameworks and policies from an international level to local together with the main theories adopted to better inform the study and how they relate to each other. Chapter 4 will dwell on the methodology to unpack the concerns which might emerge while collecting data.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

According to Kothari (2004) research methodology can be described as a procedure of bringing about the tools, various techniques, and instruments which the researcher adapts to collect, analyse, and interpret the data on their study. The main purpose of the chapter is to outline the instruments and methods to be utilised for gathering, analysing and presenting data collected for the study. Specific research methods will be defined in detail together with the tools to be used for analysis and presentation of data.

The research chapter also gives details on how the research methods, tools or instruments were used in terms of their specific purpose and how they helped in achieving the research's objectives. This was done to collect, retrieve, manipulate/analyse and present research findings with the main

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purpose of analysing spatial planning strategies to be used in halting emerging informal settlements and land invasion in Vrede town this is to improve the livelihoods of Phumelela municipal residents to achieve the study objectives. The chapter presents the research approaches (quantitative and qualitative), research strategy, data collection, sampling, limitations of the research methods, and ethical considerations.

4.2 Research Paradigm or Philosophy

Research paradigm is a theoretical idea which leans of laws and theories to be formulated in support of the theory, experiments are carried out to prove if the theory is true or not (Adil Abdul Rehman and Khalid Alharthi, 2016). Research paradigms determine the construct and foundation for a research study. There are different types of research paradigms which are adopted depending on the type of study a researcher in interested in. This study will use the **pragmatic** paradigm. The pragmatic paradigm emphasizes choosing research methods based on what works best to answer the research question, rather than being tied to a single philosophical stance like positivism or interpretivism. The main reason for selecting this paradigm is that it offers the municipality alternative solutions beyond the researcher's recommendation (Spatial Development Framework and IDP), along with its main plans. It is most feasible for the study to explore various solutions in solving emerging informal settlements and land invasion.

4.3 Research approach

There are two research approaches that will be used in this study, which when explored together they give us a mixed method approach in research. Research approach is classified as the basis of a plan layout or a plan of data collection, analysis, and representation. This is based on the phenomenon of the researcher; it takes the study and defines it according to the par, there are advantages and disadvantages outlined that the researcher can adopt to inform their study. Quantitative research approach

Quantitative research approach is an approach based on measuring the amount or quantity, according to Kothari (2004), the data method which will be used in this research study will be attained through methods of questionnaire, on-site observations, and structured interviews. The main purpose for adapting and using this approach is to be able to measure and analyse the research findings (*number of people residing within Mavakgeng informal settlement, the number of working classes, number of existing businesses, number of households, number of those who*

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wish to relocate and those who do not, the number of households with access to services and the number of informal settlements) together with the residents residing in the area and other challenges they are facing in relation to lack of planned land use development and service delivery. The findings will be presented in the form of percentages and quantities to enable comparison with findings from different sources relating to this study. This researcd is primarily designed to capture numerical data because it is reliable, especially when analyzing large populations or quantities, and because the data can be kept anonymous since it is presented in numerical form.

4.3.1 Qualitative research approach

Qualitative research approach refers to the procedure used to understand, describe, interpret, and develop a theory on a phenomenon which is often referred to as the Motivation research, (Kothari, 2004). The primary objective of this approach is to elucidate the purpose or desire behind the study, which pertains to human behavior. It is recognized for its ability to distinguish such intentions through interviews, as noted by Katrin B. Klingsieck, Axel Grund, Sebastian Schmid, Stefan Fries, et al. (2013). The approach is referred to as the interictal where the researcher gets a sense of how humans feel about what the study is focussing on (Declan 2001), which in this case the informal settlement, land invasion and adequate access to services.

Qualitative data approach in this study will be attained through key informant interviews (KIIs), focus group interviews and field observation. The main reason for using the qualitative data method is that the study will be able to gather findings which are descriptive and explanatory. The advantage is that researchers will be able to interact with participants and gather more detailed information, as the data collection methods, including questionnaires and interview questions, will incorporate open-ended questions.

4.4 Research design (case study design)

Research design is defined as the primary strategy that the researcher will adopt and utilize to answer the main questions and its sub questions. It is a breakdown of how the researcher plans to collect and present data ethically while avoiding or minimize the chances of the study bring bias (Dannels 2018). A case s, also known as a research strategy, is a detailed investigation of research often compiled with numerous data collected using primary and secondary data collection methods. The aim of using a case study design is to provide an analysis of the

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processes and context that illuminate theoretical issues being considered (Casell and Symon 2004).

The disadvantage of utilizing a case study research strategy is that it cannot be defined through its research methods; somewhat, it must be grounded in its theories. Its advantage is that is flexible, and it focuses on examining the research questions thoroughly and it is characterised by sufficient supply or gathering of evident (Jean 2000). The case study design is appropriate because it has allowed the researcher to evaluate and investigate other studies and explored more theories to gather evidence or data for this study.

4.4.1 Observational research design

There are two basic research design approaches which are the qualitative approach and quantitative approach (Kothari 2004). The two research design approaches are going to be applied in this study and the researcher will make use of different research methodology to be able to gather both qualitative data and quantitative data. The importance of the observation method is that it permits researchers to study people in their native environment, thus to better understand "things" from their perspective (Baker 2006).

4.4.2 Mixed research approach

The use of qualitative and quantitative research approaches yields mixed research results, where both methods are applied in data collection in one study based on their suitability to the research. A mixed research approach aims to discuss the philosophical issues that arise when undertaking a study according to the chosen paradigm, which posits that there are multiple realities or theories to be proven (Amaratunga et al., 2002).

The main concerns have always been that, when explored as a single approach, the qualitative and quantitative approaches often fail to explore all components to create a validated result (Migiro and Magangi 2011). The two approaches will be applied through the description of numbers as per questionnaires and the description of what will be seen or any other data that will be collected through forms of interviews, questions, and theories.

4.5 Description of study population

The study population is defined as the subset of a target population to be sampled in the interest of conducting a study and collecting data in an area (Hu 2023). The sample is determined or calculated from the total population of the area using a formula. According to the Phumelela IDP,

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2024, the population has increased to 52,224 from 50,054 that was recorded in the 2016 Census, with a difference in growth of 2,170. The study will use Solvin's formula to determine the sample size for data collection. Phumelela Local Municipality holds 82.9% of formal households from 73% of 2011 with 11.3% being informal dwellings, 5.4 being traditional dwellings and 0.4 being others (Stats SA, 2022). Vrede town has a total of 4 678 households both formal and informal dwellings in town, the location and informal settlement.

The study population described above is made up of various elements and the target group will be determined according to Solvin's formula. Given the research focus on spatial planning and land issues, I will examine residential stands, with a primary emphasis on the sites and their owners, who will be the study's primary target. The actual Vrede households in total is 4678, since the total population is large too make use of in research of this magnitude, I sampled a small portion of the owners of the residential stands and the population sample size (households) to be explored according to Solvin's formula will be 369 households for as calculated below.

4.6 Sampling procedure

Sampling is made up of probabilities and non-probabilities; the researcher has full control of sampling error by increasing the sample size, with the concern of the magnitude of sampling and non-sampling errors (Dev S. Pathak, D.B.A., Jane M. Meinhold, Pharm.D., Diane J. Fisher, M., al., 1980). I will use different sampling procedures for residential owners I will use random sampling and purposive sampling for the municipal officials as they are working in different departments.

Phumelela Local Municipality holds 82.9% of formal households from 73% of 2011 with 11.3% being informal dwellings, 5.4 being traditional dwellings and 0.4 being others (Stats SA, 2022). Vrede town has a total of 4 678 households' formal and informal dwellings in town, the location and informal settlement. Solvin's formula was used to determine the sample size of the households as calculated below.

n- sample size

N-Total households (4678)

e- margin of error (0.5)

$n=N/1+Ne^2$

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$4678/1+ (4678X (0.005)^2)$

n= 368.78

n-369 Households are to participate in questionnaires and KII

4.6.1 Purposive sampling method

Purposive sampling method is important for this study as it allows members of the population to be purposefully selected as respondents. Members of the community will choose according to their skills, reliability, membership and leadership within the community. Hence, the sampling method was again applicable in selecting municipal officials purposively as respondents according to departments and knowledge relating to the study, thus having participants from *(Dep of Human settlement, technical services, Finance, Town planning, Community services and Housing Department).*

4.6.2 Random sampling method

The random sampling method has been widely applied in quantitative studies, particularly when survey instruments are utilized. It is commonly acknowledged that random sampling is advantageous in populations that are homogeneous and uniformly selected, such as those of house owners involved in a study (Shagofah and Tajik 2022). The advantage of the method is that any resident or house owners have an equal chance to be selected and participate (unbiased) in KII or questionnaires, this will also be advantageous to me as the researcher as I will be able to acquire information first hand to the people living within the informal settlement and the surrounding area compared to what I as an official know from the office. However, like any other method, the Rando sampling method has its limitations and can be challenging when the population is heterogeneous and widely dispersed (Luca et al., 2018).

4.7 Description of a study sample

The selection of determination of a sample size in a study is crucial as it eliminates the probabilities of the study having sample errors (Hamed 2017). The study will use Solvin's formula to determine the sample size for data collection. Phumelela Local Municipality holds 82.9% of formal households from 73% of 2011 with 11.3% being informal dwellings, 5.4 being traditional dwellings and 0.4 being others (Stats SA, 2022). Vrede town has a total of 4 678 households' formal and informal dwellings in town, the location and informal settlement.

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Table 4-1: Description of study sample

Units	Frequency	Percentage representation
4 678 households	369	7.6 %

Sources: Authors data, 2025.

4.8 Collection of primary data

The primary data collection method will include the use of Questionnaires, Key Informant Interviews, observation, and remote sensing.

(i) Questionnaires

Questionnaires share a hint of an understanding the researcher would like to extract from participants (Adams et al., 2008). The surveys were administered to the targeted participants in the study within a study area and the risks that residents believe they are prone to. To address those who need assistance with the questionnaires, the researcher administered the research questionnaires and awaits the response face-to-face in order to prevent unattended questionnaires from the participants since they might affect the reliability of the data.

The questionnaire was distributed to house owners and Municipal officials to gather both opinions on the study and they were administered face to face. The questionnaire included both open-ended and fixed questions. The use of open-ended questions aimed to better understand the residents' concerns and allow them to share their feelings about the service delivery in Phumelela. The fixed questions were used to assist the researcher and the participants in rating how they have been receiving services and rate at which informal settlement and land invasion occurs.

(ii) Key informant interviews (KIIs)

KII are primarily utilized to gather more relevant data, as researchers have the opportunity to engage with interviewees, thereby gaining a deeper understanding of their feelings (Ali et al., 2014). Key informant interviews will be conducted to ask the Municipality officials viewpoint and Department of Human Settlement officials including the Housing Department of the municipality concerning the activities transpiring within the settlements. KII will include questions relating to what the residents will desire to see as development within Vrede town and the informal settlement area.

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To allow probing in the study the researcher used open ended together with fixed questions for the interviews. The interviews were conducted with the homeowners of Vrede and Municipal officials from various departments, this was to gather more ideas on how people feel since others were not able to write but able to communicate face to face. The population that participated were selected using the purposive and random sampling methods.

(iii) Observation method

This is a method which is employed by a researcher to observe the nature or direction in which the area is growing and developments taking place. It was previously argued that observation is an important tool in behavioural and social sciences as it requires good skills to make and evaluate behavioural observation (Ciesielska et al., 2018). Non-participant observation will be used to gather information about the town, business area, townships, and informal settlements, as well as the risks that residents face.

The researcher was a nonparticipant observer as she works within the municipality and get to see some of the decisions taken first hand and at some point, get to be with the residents while attending to Town planning issues relating to the study area. The main reason to be a nonparticipant observer was to ensure that residents do not change their behaviour as they know I work in the institution which would have tempered with the results.

(iv) Mapping

Mapping is widely referred to as the “science of the whereabouts of an object or people” which refers to the ability of one to sketch symbolise parts of earth for design of objects (Fairbairn et al, 2013). The study will use maps created through the use of Apps (QGIS, AutoCAD and ZwCAD) and the maps are a portrait of existing structure layouts and those recommended to be constructor as part of the spatial planning strategies to halt informal settlement and land invasion.

(v) Photography

Photography has been previously referred to as the ability to create images portraying what is on the ground or in history; it shows the art of capturing moments (human-environmental interacting moments, spatial phenomena, *and landscapes)* (Elkins, 2011). Photography was used to supplement data and portray the on-the-ground conditions, in comparison to our SDF, IDP, or any

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municipal framework referenced in the literature review. These pictures were attached to the study as evidence of the current situation.

4.9 Collection of secondary data

Secondary data was gathered making use of Government documentation such as (Frameworks and policies from National to local sphere) together with other relevant international policies relating to the study. Google Scholar was utilised, an online platform for accessing books and journals, in conjunction with the University Library portal, which provides students with access to books, case studies, and other relevant documentation for this study. There is full literature that was reviewed using the secondary data collection method in chapter 2 and 3 of the study where studies were unpacked in different areas internationally, nationally, and provincially.

4.10 Data Analysis

Data analysis is considered a crucial part of a study, as it ensures that the results are more effective and reliable after all tests are conducted. Data analysis is a process of collecting, transforming, cleaning, and mode determining the required information for recommendation at the end of the study (Dawit 2020). The analysis was used to assess and analyse participant viewpoints and answers regarding land invasion and emerging informal settlements issues in Vrede. The composed information consists of tables, charts, photos, and maps used to display the data.

4.11 Qualitative Data Analysis (Descriptive Statistics)

Descriptive statistics are commonly defined as methods used to describe real phenomena in a dataset. They are used to summarize data in a prearranged manner by describing the relationship between variables in a sample of a population (Vikas 2018). The reason for choosing descriptive statistics for analyzing qualitative data is that, in this study, we will be using frequencies and their means. This method provides an overview of the collected data and aids in identifying patterns or relationships that may emerge. To calculate the standard deviation of a study, descriptive statistics use a formula that includes the mean, median, mode, range, and variance.

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4.12 Quantitative data analysis

Quantitative data were analysed using various methods, including descriptive statistics, which provide a snapshot of a dataset's central tendencies and variability of the data collected from the study. Descriptive methods use various methods such as observational research, survey research, case studies and interviews that was used to collect data and the types of sources were used (Primary and Secondary). The data analysis methods included statistical analysis, regression modelling, and hypothesis testing and descriptive statistics. Data, typically analyzed to identify evidence that supports the research process and the hypothesis stated in the research (Anup 2025).

Statistical Analysis is used to collect, cleans, summarizes, interprets and draws conclusions from the data collected which involves the use of techniques and methods to analyse in order to draw a proper conclusion (Fabyio 2025).

(i) Tools for quantitative data representation

Data collected using a quantitative method were analysed using Excel for presentation in various forms, including tables, bar graphs, and pie charts. In contrast, data that was collected using qualitative data method and theories as unpack in chapter 3 was presented in forms of maps, diagrams and pictures as reflected by the theories that were introduced in the study.

- **Graphs**

Graphical methods will be used to provide a visual impression, such as pie charts, bar graphs, or pictures, for the outcomes of the data analysed. Various graphs used to represent the field data collected includes i.e. pie charts, line graphs and bar graphs.

- **Tables**

The researcher will use tables to emphasize the statistics of frequencies. Such presentation tools outlined pure rich information on the outcomes of the analysis. Means, comparisons, multiple regression analysis results, and frequency tables were utilized.

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4.13 Variable measurement

Variables are often measured using various methods of analysis and presentation depending on the method or tool that the researcher chooses to utilise (Kothari, 2004). Based on the information collected from respondents using categorized variables, the researcher can present the respondents' data. In this study, Excel will be utilized to analyze the data.

4.13.1 Validity and reliability

According to Merriam (1995), reliability tests are designed to determine whether the results would be consistent if the test were repeated to validate its validity. Essentially, it is a repeated measure of a phenomenon, where the reliability of the results increases with each test conducted. There is no reliability without the verification and adaptation of the validity of data that has been collected, as the researcher has to know if the data collected through each method is valid and we can rely on it for accurate results (Moss 1994). Hayashi et al. (2019) argued that validity is better when demonstrated in a quantitative study compared to a qualitative study, as there is no universally accepted criterion to assess validity in qualitative studies.

Reliability tests estimate the stability of measures, internal consistency of measurement instruments, and interrater reliability of instrument scores. Validity is the extent to which the interpretations of the results of a test are warranted, which depends on the particular use the test is intended to serve (Carole 2008). The validity of results must be tested at least twice to ensure they are reliable and can be trusted, as large samples tend to yield stable estimates compared to small samples. This ensures that the researcher has a high-quality study (Guion 2002). The process of developing and validating an instrument primarily focuses on reducing measurement errors and determining whether the results are merely normal or reliable.

the main population to test the research tools and conduct a mini feasibility study to ensure that the research instruments are arch tools and conduct a mini feasibility study. This ensured that the research instruments were aligned with the main issues and that any necessary adjustments were made, thereby validating the results from the collected data. There were respondents with comparable answers, and these solidified the validity of the study together with its accuracy. Quantitative data may be subjected to many biases, such as non-response bias, sampling bias, and social desirability bias but the respondents did not change their responses as a result of having the researcher especially in interview. While utilizing the interview method to collect data

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the researcher realised that various participants shared similar thoughts and sentiments in most issues and from that it was drawn that the data is valid, and that the researcher can rely on it.

4.14 Ethical Considerations

In this study, ethical issues such as informed consent, anonymity of participants and confidentiality of information were considered. All ethical considerations for this research were conducted in accordance with the University of Venda's Ethical policy, and I obtained an ethical clearance certificate before the research commenced. Please see Appendix (A). Participants were alerted about the study and that it is for academic purposes, and they were allowed to withdraw from participating on the research at any given moment.

(i) Informed consent

No information will be gathered without the permission of the participants of the informal settlements, Vrede town and all other stakeholders of Phumelela Local Municipality and those outside the municipality informing the participants and getting consent to participate in the study ensures gathering relevant information in relation to the study.

(ii) Anonymity of participants

Anonymity of participants was protected as individual's names are not to be mentioned in the study. The use of pseudonym to ensure the names of the participants were protected and to also protect those who shared data that is sensitive. This is to avoid leaking any personal information about the participants and ensuring that they are safe. Participants will be ensured that no information (personal) will be shared with the public, in this manner participants will be able to share relevant and important information as the researcher will be trusted.

- **Confidentiality of information**

Confidentiality of information was ensured and described on the sheets which were distributed to participants. Collected data from participants will be stored in a computer with a password to protect them and the researcher will only be the person who will have access to the information.

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Table 4.3: Research methodological summary or Research Matrix Table

Objectives	**Research Variable**	**Target group**	**Primary data collection**	**Secondary data collection**	**Sampling method**	**Data Analysis Procedures**
To characterise land invasion and emerging informal settlement	Space/Land Dwelling Units	- Phumelela's households' owners - Government officials	- KII - Questionnaires - Observation	-Literature review	-Purposive sampling -Random sampling	Descriptive analysis SPSS to Excel And presented Via: - Table - Diagram -Bar Graphs - Pictures
To highlight the drivers of land invasion and emerging informal settlements	Space/Land Dwelling Units Infrastructure	- Phumelela's households' owners - Government officials	- Questionnaire - KII - Observation	-Literature review	-Purposive sampling - Random sampling	Descriptive analysis SPSS to Excel And presented Via: - Histogram - Table - Diagram

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						-Bar Graphs
To propose a sustainable human settlement strategy that can address land invasion and emerging informal settlements in Vrede town, and other small towns experiencing similar challenges in South Africa	Space/Land Spatial planning strategies Development Infrastructure	- Phumelela's households' owners - Phumelela's government officials	- Questionnaire - KII	-Literature review	-Purposive sampling - Random sampling	Descriptive analysis SPSS to Excel And presented Via: - Histogram -Bar Graphs -Diagram

Source: Makananise table, 2025

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4.15 Chapter summary

The chapter focused on different data collection methods, types, sources and the collection methods used and how the researcher plans on addressing predicted challenges as outlined on chapter 1. The chapter furthermore illustrated different ways in which the research instruments will be applied and how they will contribute to accomplishing the main objectives of the research. The next chapter will be the first objective Analysis Chapter.

CHAPTER FIVE: CHARACTERISATION OF LAND INVASION AND EMERGING INFORMAL SETTLEMENT IN VREDE TOWN.

5.1 Introduction

The chapter of the study will analyze and unpack the objectives that were set for the study based on the theories and the literature reviewed. The summary of the characteristics uses some elements of the study such as the subsidiary question and the data collected with the data collected through primary and secondary data collection methods. The purpose of the chapter is to thoroughly analyze objective No.1 which states “To characterise land invasion and emerging informal settlement in Vrede town”. The objective will be addressed using theories reviewed in chapter two such as Henri Lefebvre’s theory of the production of space and the Garden city movement by Ebenezer Howard. The use of the theories mentioned above will enable the researcher to characterise land invasion and emerging informal settlements, as they are distinctively characterised through the application of known literature and the knowledge gained from the researchers experience as a municipal employee.

Data for the chapter was collected using a mixed research approach (Qualitative and quantitative research approaches), primary and secondary data collection via interviews, questionnaires, observation, mapping, etc. were utilized to analyse the study. The variables that speak to the objective include land, space, and dwelling structures, which the researcher used to characterise land invasion and emerging informal settlements, as mentioned in the Phumelela Spatial Development Framework. This is because it is becoming a major challenge for the growth and development of the town.

The study adopted 3 theories being Henri Lefebvre’s Theory of space production that speaks to the maximizing of the available space as resources that should be sustained for the future. According to Schneiders, et al (2023), the dynamics of space production promotes social cohesion and communication amongst communities as there is always betterment of social integration, The study also used city movement theory that was established by Ebenezer Howard in the publications Garden cities of Tomorrow in 1898. Ebenezer focused on the town and country areas, ensuring communities considered the environment when planning by creating green belts. This approach allowed communities to have industries, residential areas,

and promote greening simultaneously. The theory of Garden cities of to-morrow is crucial as it will assist us in understanding the danger that informal settlements impose on planned developments and might have a risk on access to future resources. The last theory is the theory of Hirschman's Exit, Voice and Loyalty formed in (1970). It has been broken down into two models which is the voice exit that mainly focuses on the corporate constitutional framework together with law & economics frameworks (Bart 2013).

The researcher used Solvin's formula to determine the sample size for data collection and for the description of the current population size. Furthermore, the study applied descriptive statistical formulas to analyse qualitative data, which is commonly defined as methods used to describe the real phenomenon on a dataset. It is used to summarize data in a prearranged manner by describing the relationship between variables in a sample of a population (Vikas Yellapu, 2018). This method gave us the overview of the data collected and assisted in the identification of patterns or relationships between our main concepts, land invasion, and emerging informal settlements.

5.2 Existing land uses hierarchy in Vrede

Data that was retrieved from existing literature of the municipality's officials and other documentation of the town shows a magnificent change and growth of land uses and activities of the municipality within Phumelela LM. According to Phumelela Local Municipal Land Use Regulation, (2022) land uses have increased, and they are characterized into the following:

- Municipal land

According to Olsson (2018) municipal land is land/space that belongs to the local authority which is the municipality where full ownership is registered by the Deeds office and they authorize and approve on such land, activities on such do not belong to provincial nor national government.

- Agriculture

Is most defined as the science behind farming and the cultivation of land while processing and producing crops to produce food as the main aim of having such activity (Flannery 1973). The origin of the need to cultivate was to curb the need to look for food and for communities to have adequate food access.

- Residential 1 and 2

According to the Phumelela Local Municipal Land use regulation, (2022) residential as land use is a place that is designed for humans to live/reside in. Type 1 and 2 according to the Land

use scheme defines what kind of developments should occur defined according to the municipality in power of land.

- General residential

General residential can be defined from different levels, however, at the level of Phumelela local municipality, General residential is a place that offers more than a place to reside but more of a business residential that includes dwelling units, blocks of flats, student dwellings, etc. (Phumelela Local Municipal Land use regulation, 2022).

Business 1 and 2: The authorizing municipality provides land specifically for the generation of money through business activities on site (Charles Handy, 2008). Type 1 or 2 is mostly defined by the municipality according to the approved LUS of that municipality.

- Resort

According to George Fox University Archives, (1990) a resort from the first resort book established in 1990, is a place where people gather for pleasure, relaxation and different gatherings of their choice. This land use may be defined specifically by the municipality as the local authority for the councilor's satisfaction.

- Industries

Industries or industrial places though in different categories from light to heavy industrial areas are defined as spaces used to conduct multiple business activities but in line with the production and supply of goods (Malerba, 2007)

The development of the Town has attracted primary people into the area, putting pressure on the municipality to provide services and maintain the area. Vrede emerged from a very small area that was not envisioned for such growth. The primary land use or activity that contributes to the local economic development of the municipality is Agriculture and industries, given the town's proximity to several large companies that specialize in farming and production. Most of these institutions do not require a lot of education while recruiting but focus on the skill one possesses which as a result create more opportunities for population growth and the high demand for space and housing in Phumelela (Vrede town).

The figure below shows the Land use map of Vrede that clearly indicates the existing land uses of the town and how they are interconnected from the main town and what is known as the location or townships.

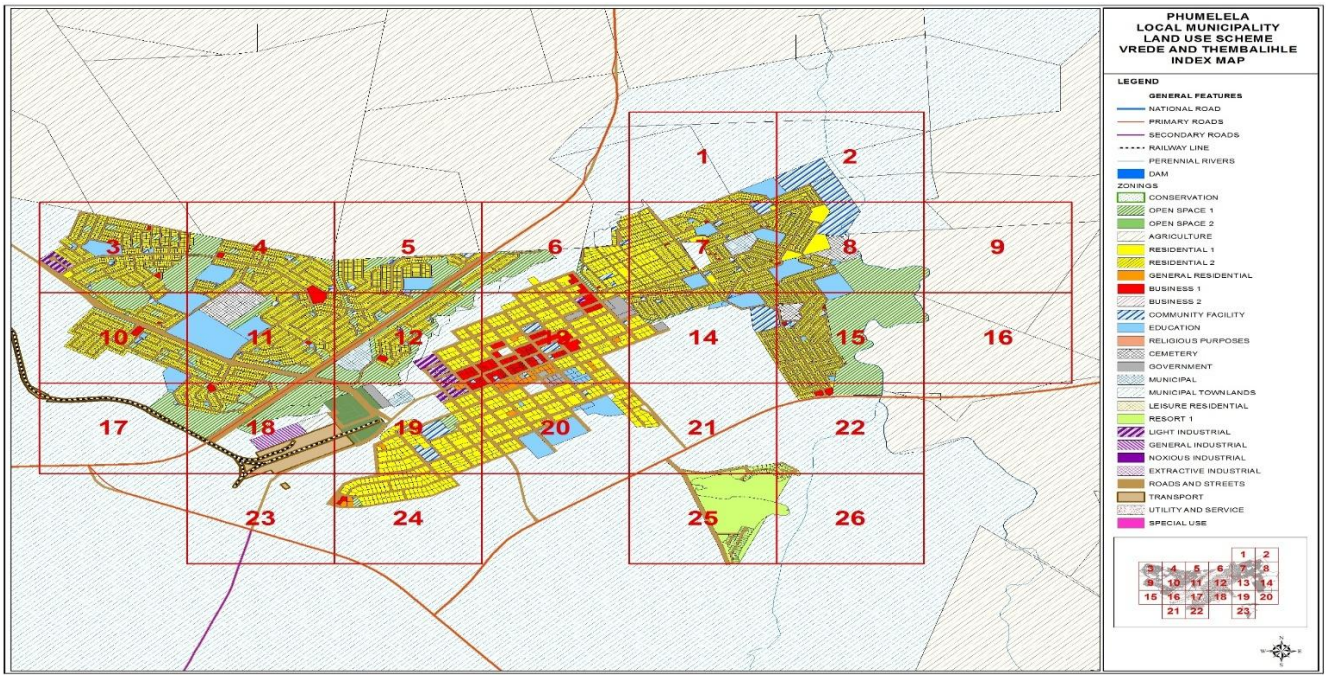


Figure 5-1: Phumelela Local Municipal LUS map (Vrede)

The LUS; however, as the population increases day to day, there is still a high demand, which indicates above indicates that a significant portion of the area is occupied by residential sites, compared to other uses. However, as the population grows, there remains a high demand for space and sites. According to the history of Vrede town, when the area was established, it was a small area surrounded by a few Agricultural farms and a large open space with few business areas and residential places. However, as years passed, more developments started to occur, and that's how economically and socially it grew to the town it is. Based on interviews with municipal employees and Vrede residents, the researcher found that while most town, agricultural, and business areas were previously owned by whites, they have since become mixed-race land and property ownership.

According to Henri Lefebvre's theory of space production in relation to agricultural production, the municipality and developers invested in a land use that presented an economic growth opportunity for Vrede. The agricultural sector used to contribute less than 3% to the growth of the South African economy in studies conducted around 1969; however, the contribution has since increased to 12% to date (Greyling 2012). Having looked at the garden city movement theory, which was established by Ebenezer Howard in the Publications Garden Cities of Tomorrow in 1898, the concept became influential as it addressed the concept of small towns that were self-contained and surrounded by greenbelts (Admin, 2020). Phumelela Local Municipality, especially Vrede, is an area that is surrounded by enough open space and green belts, which, based on the two theories, people should be afforded the chance to voice out how they would like to see development in and around the town.

The theory of Hirschman's Exit, Voice and Loyalty states that it is the responsibility of the local authority to gives their people a chance to plan for their future and officials be there to guide this creates loyalty between both parties and let the people voice out what they want. Perhaps if the councillors and the municipality have an agreement with the community to listen when doing SDF public participation, the municipality would have other land use developments compared to the growth of residential areas. The reason would be that all land uses have to be complemented to ensure that the town sustains the resources it has for future generations.

5.3 Connectivity within and surrounding areas of Vrede

Vrede town is situated in the central region of KZN, Mpumalanga, and Gauteng provinces, and serves as a link to the economic hubs of these provinces. The town not only connects to its surrounding towns and townships but also links most of the high economic areas in other provinces, including Newcastle, Standerton, Secunda, and Sasolburg in Gauteng. Consequently, it has been deemed easily accessible, despite the road infrastructure's declining maintenance. From a municipal employee point of view if the area had better maintain road infrastructure the town would grow as most transportation pass through the town to interconnect to other areas.

The main reason behind most transportation especially delivery trucks is the activities such as food places and guest houses that the town offers, and the safety of the trucks especially packed in town as SAPS is available 24/7. Henri Lefebvre's Theory promotes integration within citizens and not only social cohesion but cultural cohesion as well (Christian 2019). The spatial perspective of creating an organised physical environment that is accommodating is critical in spatial planning and distribution (Raka 2003). The use of a densification strategy is defined as a strategy to promote social interaction and cultural diversity across communities (Todes et al., 2018). Which has been named of the municipal Spatial Development Framework is aligned and supported by not only one theory but different theories and concepts from other scholars. Henri Lefebvre's theory better informs the study in the creation of space land for development and maximising the use of available resources sustainably so and in this case a proper established truck stop with all services will grow the town and bring development together with economic development.

The map below shows the correct connectivity in and around Vrede and Phumelela as a whole, which also shows the existing railways. Vrede not only has roads or railways but also has a landing stripe just outside the town, but not remotely located from the town.

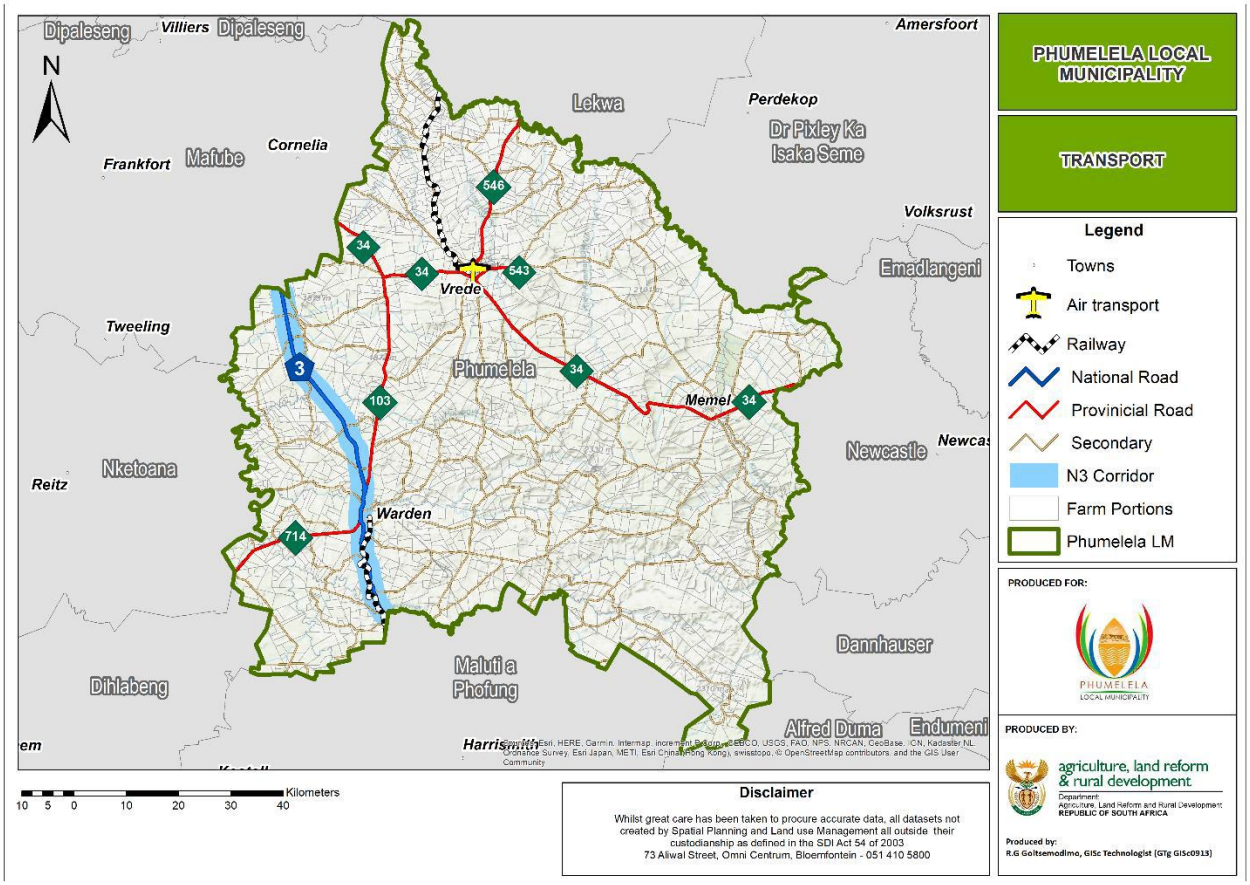


Figure 5-2: Vrede connectivity map

Locally, the roads' infrastructure is declining, but the municipality is trying to fix where they are able to, although it needs more than patching. There is one main street that connects and delivers traffic in and out of town and the location. The streets referred to also pass through the informal settlement Mvakgeng and have small distributions to local farms and other business areas in and around the town. The informal area has been deemed waterlogged, making it difficult to grade roads or allow other services to pass through. Residents have informally occupied the land, with some portions accessible in emergencies, but not all of them, as illustrated.

The incorporation of municipalities in South Africa has posed a perilous challenge to service delivery across the country. Post 1994, the South African government has always acknowledged that there were serious infrastructure backlogs, which include roads, health, and housing (Mamabolo 2016); however, there are no strategies that seem to be implemented and working to address those challenges. From the researchers observation, Phumelela is one of the municipalities facing the challenge of service backlogs, including roads, housing allocation, and site access. There have been strategies that the government adopted such as the sustainable development goals however not much has been achieved thus far (Mawonde and Togo 2019).



Source: Makananise, Fieldwork, 2025

Photography 5.1: *Road's infrastructure in Mavakgeng Informal settlement*

The photographs above portray the current roads infrastructure in Mavakgeng informal settlement. It is important to note the challenges that small towns face regarding transportation and the provision of quality infrastructure for the life support of not only the residents, but alsothe challenges small towns face regarding transportation and the provision of quality infrastructure for the life support of both residents and the town and township. If Phumelela Local Municipality were to harness the potential of connectivity in Vrede, the town would experience economic growth, given its proximity to the N3 road, which is just 20km away.

5.4 Characteristics of land invasion and

As much as most studies have negative view of emerging informal settlements resulting from land invasion within their cities and towns, most land invasions often results into emerging informal settlements that tend to adapt to formal ways of existing to be formalised and some to better the image within urban areas (Munshifwa 2019). Land invasion and informal settlements are characterised differently, with land invasion residents forcefully occupying land illegally for their benefits; most take land for residential purposes, while others occupy it for business purposes. Land invasion remains an emerging challenge this has shown an increase as there is a decline in economic development in almost the whole country (South Africa). Vrede town is one of those towns that under the local government and councillors in power its land was invaded and as a result we have an ongoing challenge of informal settlements that

has emerged uncontrollably. The result of this invasion, as indicated by the data collected, is attributed to a lack of space.

According to the Phumelela Spatial Development Framework, (2024) the municipality has named one spatial strategy to curb the uneven use and occupation of land as developments are spreading uncontrollably so. The municipality together with its stakeholders suggested the use of a densification strategy to ensure the development on mixed uses in one place which in terms of space according to Henri Lefebvre's Theory of the Production of Space which states that "The physical and social environment matters in the process of space production to channel the wellbeing of humans and creation of a safer human settlements with no harm to community members health" is a better spatial planning strategy and will attract developments into town socially and economically.

5.5 Characteristics of informal settlement

An emerging informal settlement can be defined as an area that's being developed informally after land was grabbed from the municipality, an area that poses hazardous challenges to the environment, development, infrastructure, and the health of all other residents. From the interviews we had with the residents, we deduced that the informal settlers too see that what they have done is unlawful and wrong; however, they often ask "what do you suggest we do as residents with families and children who need a home and a place to call home". As a researcher and a municipal official, it pains to hear such correspondences, although what we know from the system is that there are rules meant to be followed, and they are there for a reason which is to ensure there is spatial equality and fair land distribution for all residents.

It has been determined that there are numerous informal settlements emerging in South African towns and urban areas, in search of access to efficient resources and services (Magidi and Ahmed 2022). Collier et al., (2018) amongst others defined Informal settlements as an area which has been developed illegally without complying with the By-laws of the local authority in charge whereas (Bernstein 1996) argues that informal areas lacks adequate access to services, facilities and land normally referred to as commercial farming areas which is the case in Vrede town. According to the (UN- Habitat, 2020) informal settlement has been defined as the mirror of poverty and lack of access to adequate housing, the data captured in 2022 by the UN-Habitat South Africa was on 39.6% of slums or informal settlements (UN-Habitat, 2024), this has proved that the challenge grows and develops by the day in South Africa.

According to the Municipal SDF, the earmarked area for mixed-use development and residential space has simple connectivity and access to the area, located on the outskirts of town near the land site. This may be associated with a middle to high-class developable area.

The adaptation of a densification strategy will result in large developments of town with the use of a smaller space “maximising the use of available resources” such which can be referred to as sustainable development as supported by the theory, as (Schneiders et al., 2023) urges that the dynamics of space production promotes social cohesion and communication whereas residents, whereas (Fuchs 2019) states that a successful production of space can be achieved through a critical communication amongst residents, politically free. This section of the chapter will unpack and examine the characteristics of land invasion and informal settlement. These pointers are associated with low affordable housing, lack of infrastructure and provision of basic sustainable services to communities.

5.5.1 Lack of service (Electricity)

Land invasion and informal settlements are often associated with a lack of adequate access to services as the settlements are established illegally with no proper planning in place. One of the requirements from Eskom as the electricity service provider in Vrede and Phumelela Is that the municipality writes letters to the stakeholder confirming that the area in question belongs to the institution and has been allocated lawfully. The challenge in this scenario is that the municipality cannot confirm the land belongs to them, and residents were allocated lawfully, as the area has been invaded and is not a human habitat, as per the report from the Department of Human Settlement in the Free State confirmed.



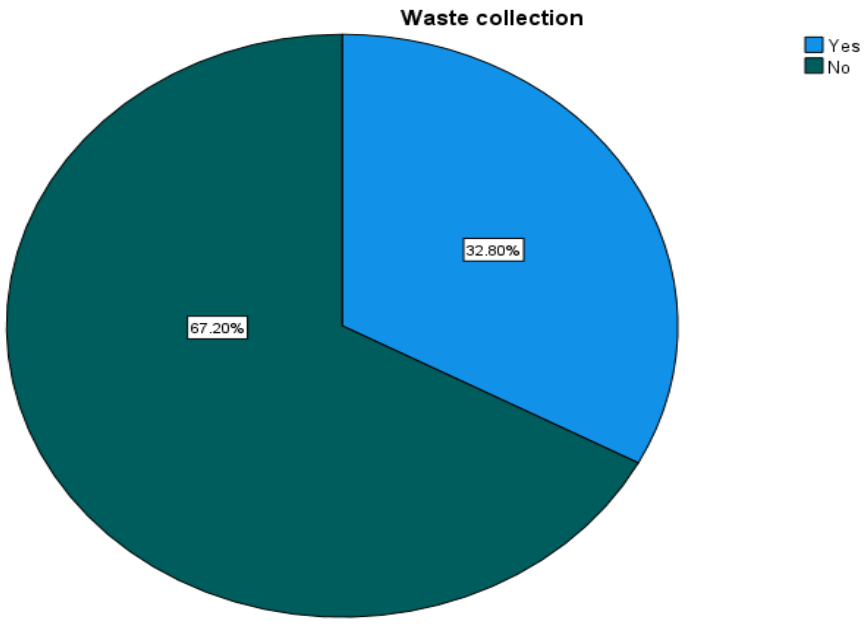
Source; **Makananise, Fieldwork, 2025**

***Photography 5.2**: Illegal electricity connection across from the street*

The consequences of the settlement being illegal have a negative impact as Eskom cannot render any services or assistance in the area, therefore residents from Mavakgeng have taken a step to connect electricity illegally. The municipality does not have much jurisdiction to act upon as the service provider is Eskom. The photo above shows one of the illegal connections that was initiated between Ndaba village, a fully lawfully established area, and Mavakgeng informal settlement. The results of illegal connections have placed a heavy weight on the power grid which has since defied the institution as to how the illegal connections can be eliminated and permanently eradicated.

5.5.2 Illegal dumping sites

Scholars have thus far defined illegal dumping as the act of depositing waste in an unauthorized area, regardless of the type of waste being dumped, such as housing, garden, construction, toxic, or non-toxic (Daisuke 2011). The municipality has been facing issues of illegal dumping, especially in open spaces. The researcher upon conducting field studies discovered that there are several dumping sites that the residents opened. Illegal dumping has over the year shown significant effect as it contaminates ground water, causes air pollution and increases the risk of flooding in an area. In large areas illegal dumping has been eliminated by charging a certain fee by the municipality as part of economic development, however in small towns with a decline in employment rates it has proven to be difficult.



Source; **Makananise, Fieldwork, 2025**

***Pie chart 5.1**: Showing the results of respondents on waste collection*

The pie chart above was extracted from the responses received after data collection, where respondents were asked if they received any waste collection from their households. The results show that 67.2% do not have such a service in Vrede.

Photo the day the municipality cleared the illegal dumping site	Photo the same day the municipality cleared the illegal dumping site a few hours later.
	

Source; **Makananise, Fieldwork, 2025**

***Photograph 5.3**: Showing the illegal dumping site after clearing and a few hours after it was cleared.*

Stakeholders such as community police, and SAPS are crucial in small towns as they will fight against crimes which in this instant, they remove signage showing no dumping on site. The municipality has made it a priority to clear and eliminate the illegal dumping sites, however residents always start afresh. The illegal dumping not only affects human beings but also animals, as they are not impounded safely by their owners as shown.

5.5.3 Lack of adequate Housing structure

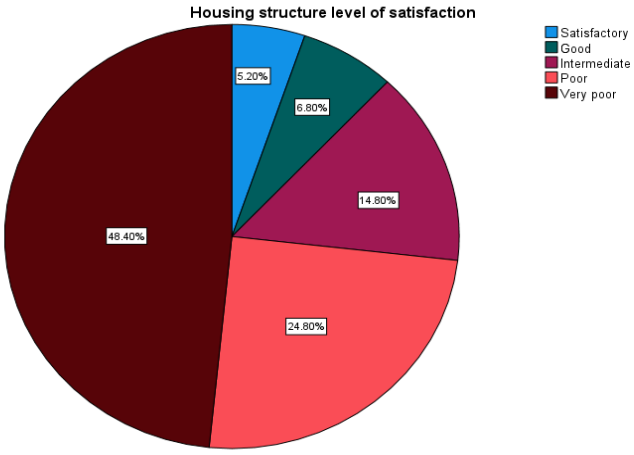
For several years, the type of housing structure or environment has been recognized as a significant factor in the health issues affecting thousands of South Africans, as living and housing conditions are the basis of many factors influencing residential health (Bonnefoy, 2007). The allocation of adequate provision or access to housing structures is one of the human rights as per the Bill of Rights of the Constitution of the Republic of South Africa. 90% of the informal settlers at Mavakgeng are well aware that they cannot erect permanent structures as the land was invaded unlawfully and they do not have title deeds of the area.



Source; **Makananise, Fieldwork, 2025**

***Photograph 5.4**: Housing structure in Mavakgeng Informal settlement*

The type of housing structure in Vrede informal settlements has proved that the area was invaded and people constructed uniformly. The photo above shows one or some of the housing structures found in the Mavakgeng informal settlement area. The structure has been built using materials collected mainly from the landfill site and there are several other housing structures constructed using such materials.



Source; **Makananise, Fieldwork, 2025**

***Pie chart 5.2.**: Showing the results of the level of housing structures*

The chart summarises the responses collected during data collection on residents' perceptions of their housing structures and living conditions. During the interview, Mr. BB noted that when it rains, it feels as if they are outside the house, as water and rain seep in.

5.5.4 Spatial distribution of the land in an informal settlement

Scholars have defined spatial distribution as lawful allocation of space in an arranged evenly patterns that has other features allocated to the area such as proper roads, accessibility and walkways (Koichi et al., 2000). Spatial distributions are always associated with spatial planning strategies thus with one goal which is to create communities that has equal access to services and land uses. To ensure even growth of an area, it is crucial to promote the use of spatial planning strategies, as seen in big cities, which will help small towns develop into future cities. Therefore, it is vital for municipalities to be proactive and act before crises emerge.

The photography below simply portrays what is on site where houses are haphazardly organised and there are no proper boundaries showing end to end of a site nor where they access the site from or interconnect to other areas.

***Photo**: Housing structures in the informal settlement*



Source: Google Earth Pro, 2025

The challenge of spatial distribution does not affect people residing there with relation to the site and house only, but it poses a major health threat as there is no designated dumping area

or site where the municipality collects from. As a municipal employee the researcher realised that even if the municipality makes efforts to eliminate dumping sites where the informal dwellers are located, they need proper education as they just revive the site over and over. It is not simple for local authorities to eliminate areas posing threats as the residents re-invent them after a day and at most such activities are associated with politics, the photography below is an illustration of how the dumping site looks and where it located near the residential areas as informal settlements are spreading.



Source; **Makananise, Fieldwork, 2025**

Photograph 5.5*: Another dumping site with the settlement*

The municipality is equipped with health practitioners and environmentalists who can offer education to the community, as the saying goes, “take care of the environment, and the environment will take care of you”. The photography above illustrates one part of the informal settlement that is waterlogged and has since been used as a dumping site and is one the sites that the Municipality does not have access to in order for them to clear the area.

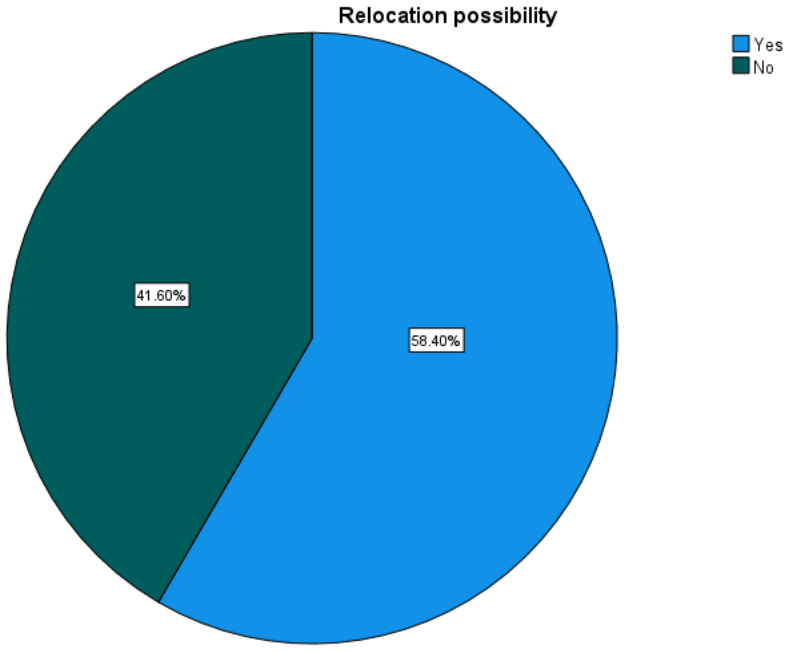
5.5.5 Environmental management concerns of the area

Before any establishment of a settlement or development DESTEA (Department of economic, small business development, tourism and environmental affairs) have to process and approve an EIA application, either from consultants representing the municipality or the municipal officials. The report simply outlines what the area has existing against what has been proposed and shows if there are any threats that such development poses to the environment (living and non-living things), it has to touch base on endangered plants or animals that are threatened by such. EIA is an environmental method that is used to determine whether the

area poses any threat to the environment before a project takes place. The method helps developers in planning and deciding (Glasson and Therivel 2012).

The municipality, while establishing Thembalihle Extension 3, conducted studies, and the report revealed that what is now known as Mavakgeng, an informal settlement, is waterlogged. When an area is waterlogged, it means that it threatens any living thing that may reside in the area reason being that there are high risks of flooding and failure of water being absorbed to the ground when it's raining. As the municipality, we have received multiple reports from residents in the informal settlements when it rains of houses that are flooded, however, the municipality can only assist to some level and cannot go beyond, as it will be deemed ok for residents to invade land. Meanwhile about 23.38 % of residents deduced from interviews and questionnaires has shown that they would wish for the department of human settlement to formalise the area whereas 58.4 % of people are willing to be relocated because of the issues they are faced with on a daily basis.

The Graph presents the data collected from households of residents who want to leave and those who would wish to be formalised in one area, no matter the threats the settlement poses to them.



Source; Makananise VP field work data, 2025

***Pie chart 5.3**: Showing the results of that residents who wish to be relocated*

A coordination of government officials from different institutions would greatly assist in explaining the danger to residents and their children, and help them understand the risks of continuing to reside in that informal settlement. The researcher, while on the field, discovered

that there are approximately 5 old water treatment plants surrounding the informal settlement and not located far from houses.



Source; **Makananise, Fieldwork, 2025**

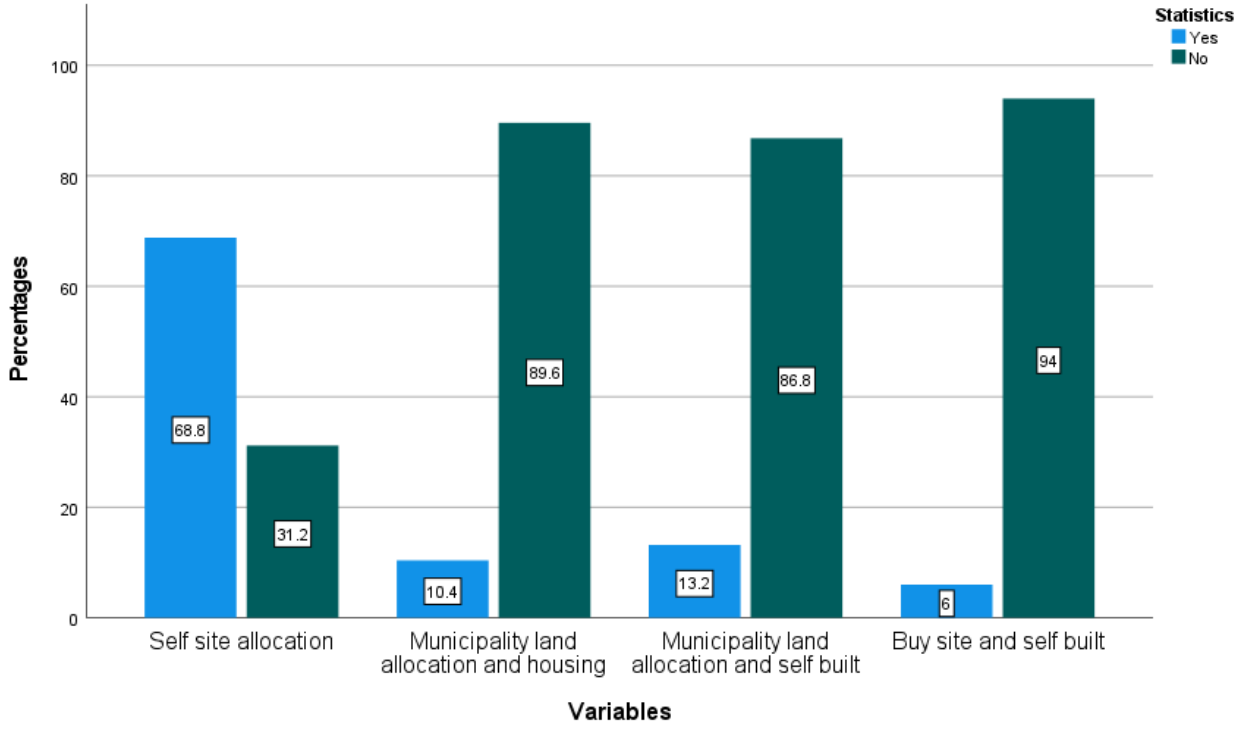
Photograph 5.6: *Old Wastewater treatment plant*

The attached photography shows some of the WWT that are currently non-functional. The dams were not officially closed or compacted, and as a result, water seeps in when it rains. The deposition of rainwater that stays there for longer periods poses challenges to surrounding houses and contaminates the groundwater. It also poses a health challenge as the water causes mosquitos that may lead to Malaria and other illnesses in and around Mavakgeng.

5.6 The relationship between land invasion and informal settlement

Scholars have since proved that there cannot be land invasion without informal settlements and vice versa, the two concepts have shown a relationship, and the emergence of one concept leads to the formation of the other (Claassens 2014). Since land is invaded unlawfully, any development that is to be brought is regarded as unlawful. In most cases, land invaders know not to construct permanent structures but temporary ones, such as the shacks being constructed in Mavakgeng today (Knight 2004). Any development that is to be brought is

regarded as unlawful, and in most cases, land invaders know not to construct permanent structures but temporary ones, such as the structures being constructed in Mavakgeng today (Knight 2004). Whatever development that is to be brought is regarded as unlawful, and in most cases, land invaders know not to construct permanent structures but temporary ones, such as those. An area canis not be called and established as an informal settlement unless land has been invaded. Land invasion can occur in any government, Public, or private state, not just on government property. Below is the regression analysis graph that summarizes some of the drivers leading to land invasion and the formation of informal settlements, supporting how the two concepts cannot be separated.



Graph 5 -1: Regression analysis graph

Model Fitting Information

Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept Only	133.645			
Final	111.315	22.330	4	<,001

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	50.656	12	<,001
Deviance	54.798	12	<,001

Likelihood Ratio Tests

Effect	Model Fitting Criteria: -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests: Chi-Square	df	Sig.
Intercept	117.563	17.851	4	.001
Poor governance	114.024	14.313	4	.006

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Parameter Estimates

Rapid urbanisation and migration[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B): Lower Bound	Upper Bound
Strongly disagree	Intercept	-3.172	.794	15.971	1	<,001			
	Past politics	.465	.195	5.700	1	.017	1.591	1.087	2.330
Disagree	Intercept	-1.448	.463	9.784	1	.002			
	Past politics	.269	.123	4.792	1	.029	1.308	1.029	1.663
Neutral	Intercept	-.671	.548	1.496	1	.221			
	Past politics	-.365	.189	3.734	1	.053	.694	.479	1.005
Agree	Intercept	-1.841	.503	13.412	1	<,001			
	Past politics	.354	.130	7.431	1	.006	1.425	1.105	1.838

a. The reference category is: Strongly agree.

The data above, as captured, was extracted from SPSS, which was recorded from the collected data. This was done to compare the available variables and test the likelihood of land invasion and the dependency on emerging informal settlements. The type of regression analysis used in this study is Multinomial Logistic Regression Model, defined as a statistical method for forecasting the probability of a dependent variable with more than two categories, given one or more independent variables (Chiou et al., 2015).

The two concepts have major environmental degradation and turn to pollute the quality of air and underground water, they have high negative impacts on economic growth and social development while degrading the aesthetic view of the town or municipality (Mutero 2018). There is a need to address measures to curb this issue at its initial stage; there should be processes followed with a contingency plan of where they are being relocated to (Huchzmeyer 2006), even though this might put pressure on the government to ensure all are created for.

5.7 Chapter summary

The chapter focused on analyzing the first objective mentioned in chapter 1 of the study. The characteristics of land invasion were analysed and informal settlement, examining the subsidiary question, relevant theories, and the literature reviewed. The next chapter will be the second objective analysis Chapter.

CHAPTER SIX: THE DRIVERS OF LAND INVASION IN AN EMERGING INFORMAL SETTLEMENT

6.1 Introduction

The chapter of the study analyzed objective number 2, which was set for the study based on the theories and the literature reviewed. The objective is to highlight the drivers of land invasion and the emerging informal settlement of Vrede town under Phumelela Local Municipality. The objective was analyzed based on the data collected through primary and secondary data collection methods, while examining what other scholars presented in relation to the drivers of land invasion and emerging informal settlement. The purpose of the chapter was to outline and better understand the reasons why people invade land and form informal settlements with reference to other areas, towns and cities.

The objective was addressed using theories reviewed in chapter two such as Henri Lefebvre's theory of the production of space and the theory of Hirschman's Exit, Voice and Loyalty. The primary purpose of Henri Lefebvre's theory was to address issues related to the creation of space and the adequate use of land. Meanwhile the theory of Hirschman's Exit, Voice and Loyalty gave opportunities to community members to contribute to planning by voicing out their feelings, Section 2.3 in chapter 2 of the theoretical scope unpacked the importance of applying the theories mentioned above and the importance of exploring each aspect based on the type of study one is interested in. An understanding from the perspective of being a municipal employee was applied to better understand the scenario in Vrede Mavakgeng informal settlement.

6.2 Drivers of land invasion and informal settlement

Land invasion is simply a form of desperation to access space and land for housing while looking for secure areas of employment and other sustainable services (South African Housing and Infrastructure Fund (SAHIF), 2021). Unpacking and understanding the factors that led to land invasions is crucial for addressing the challenge of emerging informal settlements, which continue to grow in numbers. Meanwhile, SALGA (2019) has defined Informal Settlements as areas where one or more shacks have been erected on land without the consent of the landowner or the person in charge of land development management, or on land with no legal claim. No formal layouts have been planned and approved, and services are communal in nature in Vrede informal settlement. This issue has created a huge backlog on other developments, as funds allocated to the municipality yearly are used to create habitable settlements. Informal settlements continue to raise in the South African spatial landscape due to urbanisation, population growth, the existing housing backlog and migration to towns and urban areas in search for employment opportunities (Weakley 2014).

Despite the government's attention to housing issues through various delivery interventions, including low-cost houses and Human Settlement Programs like BNG, land invasion and informal settlement formation continue. Huchzermeyer et al., (2013) among others, have since argued that informal settlements provide shelter for a large number of poor and unfortunate people with limited access to housing opportunities in South Africa. The section of the chapter focused on highlighting the drivers of land invasion and emerging informal settlement which are mentions below and have been categorised using a STEP concept.

Socio-economic factors

- Rapid urbanization and migration
- Lack of access to affordable housing
- Poverty and unemployment

Technological factors

- Lack of proper planning

Environmental factors

- Inadequate waste management

Political factors

- Poor governance Political affiliation and gains
- Past politics

Local municipalities have the upper hand to redress the issues related to land invasion and emerging informal settlements; however, local authorities do not possess the power to influence decisions such as evicting land invaders, especially with no plan. According to (Prevention of Illegal Eviction from and Unlawful Occupation of Land Act, (PIE ACT), 1998) no authority or resident is allowed to evict illegal occupier. However, they might be deemed to be located unlawfully. An analysis of the collected data revealed that several people invaded land due to a lack of provision for development, particularly for business and residential purposes. The drivers of the two concepts have not been successfully separated, as they share similar access due to being powered by the same main factors. The factors or drivers of informal settlements and land invasion, as unpacked below, have had major implications for the development of several areas (Marco 2019). The drivers were categorised into three factors being:

6.2.1 Socio-economic factors

These factors are a combination of each other, including social and economic developments that influence the growth and incorporation of a place. In this section, we examined some of the key factors and unpacked their components.

6.2.1.1 Rapid urbanization and migration

The influx of people from surrounding areas has always been a challenge for the state and local authorities, who face these challenges firsthand as they manage developments and land use across local spheres of the government. Increase in urbanization and migration has been viewed as a global challenge that poses magnificent impact of social, economic and environmental aspects ` (Fernando 2017). Urbanization and an increase in migration have led to urban decay in several urban areas, including not just cities but also small towns (UN, 2015). This has resulted in an increase in poverty in cities and placed a huge backlog on urban infrastructure upgrading and development.

According to HPCR (2005), the socio-territorial transformation caused by migration and the uncontrollable growth of population has led the state to continue failing to properly plan while ensuring that integration of societies as desired is kept and still aimed at achieving. The unplanned migration has led to the formation of informal settlements and land invasion, as in urban areas, there is a lack of space to accommodate the influx of population (UNHCR 2014). The influx of populations stemmed not only from land invasion and informal settlements but also from issues related to urban sprawl and the uncontrollable illegal occupation of government and private buildings that were mostly abandoned or not in use at the time (Murillo 2015). Data collected has confirmed what is widely known in other areas: that migration from one place to another is often driven by poverty and limited employment opportunities.

Deduced from the data collected 42% is an indication of a number of people who migrated to reside in Vrede and could not find places to reside; however, they made a home in Mavakgeng while other have chosen to rent spaces depending on their income. Various participants indicated that the reason they are residing in Vrede was due to work opportunities that the area has offered as it is surrounded by farms and industrial developments with opportunities of employment. In addition, the researcher learned that others relocated to be with their families, and they ended up residing in an informal settlement area.

6.2.1.2 Lack of access to affordable housing

The intrusion approaches from the 1950s included improving public institutions and creating policies, along with international and national legislations, to address the conditions in most living environments of the urban informal settlement (Steyn 2011). Reforming building codes and standards, involvement of the private sector in low-cost housing provision and programmes targeting both rural and urban development has increased (Jenkins 2006). The government has taken measures to address the challenges of providing adequate and affordable housing structures, as outlined in the Constitution of the Republic of South Africa (Landman and Napier 2010).

Informal settlements are often characterised by lack of access to tenure security, according to (UNHCR - The UN refugee agency 2024). South Africa has a 12.6% population residing in informal dwellings, comprising households of various ages, from young to old (Maina 2013). The physical characteristics found in the informal settlements tend to vary widely across areas depending on the income levels of inhabitants. The settlements are typically situated in areas of the lowest environmental quality, such as waterlogged areas, as seen in the Vrede Mavakgeng informal settlement, which has been deemed unsuitable for human habitation. The study area consists of dwelling units that are considered neither human habitat nor adequate.



Source: Makananise, Fieldwork, 2025

Photograph 6.1*: Showing dwelling units in Mavakgeng*

The Photo above was taken during data collection and shows a dwelling unit where participant VR resides with his family of five. This has highlighted the need for proper housing structures and development, but it has not been a straightforward issue, especially when politics is involved. The responders added to say that when it rains, they have to take other measures to ensure the children are safe, as water overflows into the house at some point. Another respondent MZ said that he once was a victim on rain damaging his property that was in the house while he was at work and the kids were at school.



Source: Makananise, Fieldwork, 2025

***Photograph 6.2**: Showing dwelling units in Mavakgeng located near the road*

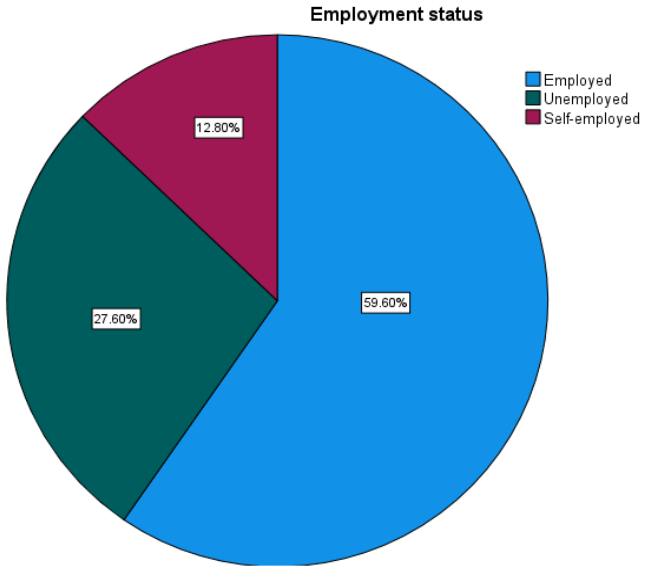
One respondent, TL, mentioned in the interview that his house is located near the main road. Since they were allocated sites without proper walkway space, people are forced to walk on the pavement intended for cars when it rains. The challenges they face include those of children getting involved in car accidents when playing. The photo above shows how close the house has been built to the main road which is the main busiest street connecting the town and location together with the informal settlement.

6.2.1.3 Poverty and unemployment

Poverty and unemployment rates form part of physical and socioeconomic development failures in South African towns and cities (Wekesa, et al., 2011). There has been a massive increase in informal settlements in South Africa due to the demand for employment opportunities in several areas, including Towns and cities. Vrede town has faced a similar challenge to other areas, which has led to land invasion on municipal land. The challenge posed on land does not o only affect the environment but the municipality as the institution or local authority with power to manage land use and development.

Through the researchers experience with the municipality, it was noted that WWT plans that are not properly closed exist because residents have invaded the land in large numbers and refuse to relocate, citing various reasons. There are measures that the municipality could have taken before the informal settlement grew to how it is at the moment, but they failed, and the

area has continued to develop and even have businesses and churches within. The data collected indicates that the area's growth has been influenced by the unemployment rate, as illustrated in the pie chart below.



Source: Makananise, Fieldwork, 2025

***Pie chart 6.1**: Portraying the employment rate per respondents*

58% of people have shown that the main issue in Vrede is the creation of employment, where they have tried engaging with the mayor as the political leader, but no action has been taken as yet. Some reasons of invading land have been said to be due to political parties and councillors telling them to use the opportunity for formalised areas or skipping queues in terms of site allocation

6.2.2 Technological factors

The section discussed the value of technology in modern developments, along with the challenges that government spheres face when technology application increases and policy implementation declines.

6.2.2.1 Lack of proper planning

Failure in adequate planning and monitoring of land use and its management has resulted in a massive setback and decline in land development and areal growth (South African Housing and Infrastructure Fund (SAHIF), 2021). Planning incompetence within our local institutions has led to local authorities having to plan while people are already situated, a process known as reactive planning. All spheres of government have policies and legislations that inform the implementation of Bylaws in municipalities; however, most institutions face challenges in ensuring the enforcement of such laws. Currently, SPLUMA is used to inform all policies that are populated and applied in local government. Although some municipalities have not yet complied with its principles, the policy is still in effect. However, the legislation has shown a

positive response in relation to land use management as it has been made a mandate for all local government to comply with the legislation (Mahlet et al., 2018).

An increase in corruption and people losing hope in the local authorities has resulted in a decline in trust in service delivery to various communities. Legislative part of the law is there to ensure that everyone adhere to what has been set aside and that there is a successful development and management of land use (Misiker et al., 2024). The importance of sustainable development goals has not yet been recognised (African Union 2015), but it is of importance that Vrede, especially Phumelela Local Municipality, takes charge and prioritises the implementation of Bylaws and policies they have to ensure that there is proper planning.

Based on Henri Lefebvre's theory of the production of space the country could have addressed the issue of land invasion before it mushroomed. Adequate planning is required within a local sphere, adhering to that of the District and Provincial level, to ensure that there is balance in land use and equal access to land (Alemu and Lauterbach 2019), thus using land in a sustainable manner. Phumelela local municipality has been failing in provision of adequate planning as per the spatial development framework and the strategic plan under the IDP implementation plan of the municipality. As a reactive planning the municipality has taken initiative to provide more space for future development of residential spaces which is a negative approach as the municipality is in a quest to address the growth in informal settlements. The reactive planning approach has limited the implementation of other land use developments within the municipality as the Agricultural sector in Phumelela is developing.

6.2.3 Environmental factors

The sections unpacked environmental concerns that are linked to the poor service delivery associated with waste collection in Vrede and Mavakgeng informal settlement, the challenges are associated with the old WWT, which is no longer in use.

6.2.3.1 Inadequate waste management

The issue associated with waste management has elevated to community members striking within the municipality meanwhile the institution has been faced with challenges of mismanagement of funds for service delivery. Illegal waste management has been proven to have negative public health impacts as the environment is often contaminated and hazardous for human settlements, Kumar et al (2020). Where there is an increase in urbanization and economic growth there has been an increase in solid waste production and they are not properly landfilled or composed according to DFFE standards (Punjab Pollution Control Board 2015). There is a need to develop strategies to eliminate growth in solid waste and poor disposal either in an informal settlement or formalized areas (Narayan 2008).

Phumelela municipality faces a major challenge in disposing of waste in the town, township, and especially the informal settlement. There has been a slowed service delivery in eliminating illegal dumping which has resulted in causing health issues for human and animals. There were strategies associated with clearing illegal dumping sites; however, they are existing to date which also has a negative impact in finances as the municipality has to finance fleet for such work. The environmental impacts are not associated with dumping sites in Phumelela, however there are three old wastewater treatment plants that no longer existent or in used and they were no properly closed as the area was invaded and informal settlement emerged.



Source; **Makananise, Fieldwork, 2025**

Photograph 6.3: *Old Wastewater Treatment Plant*

The photography attached above portrays some of the WWT that are no longer functional at the moment, and the dams were not officially closed or compacted and as a result when it rains water gets deposited inside. The deposition of rainwater that stays there for longer periods poses challenges to surrounding houses and contaminate the ground water. It also poses a health challenge, as the water attracts mosquitoes that may lead to Malaria and other illnesses in and around Mavakgeng.

6.2.4 Political factors

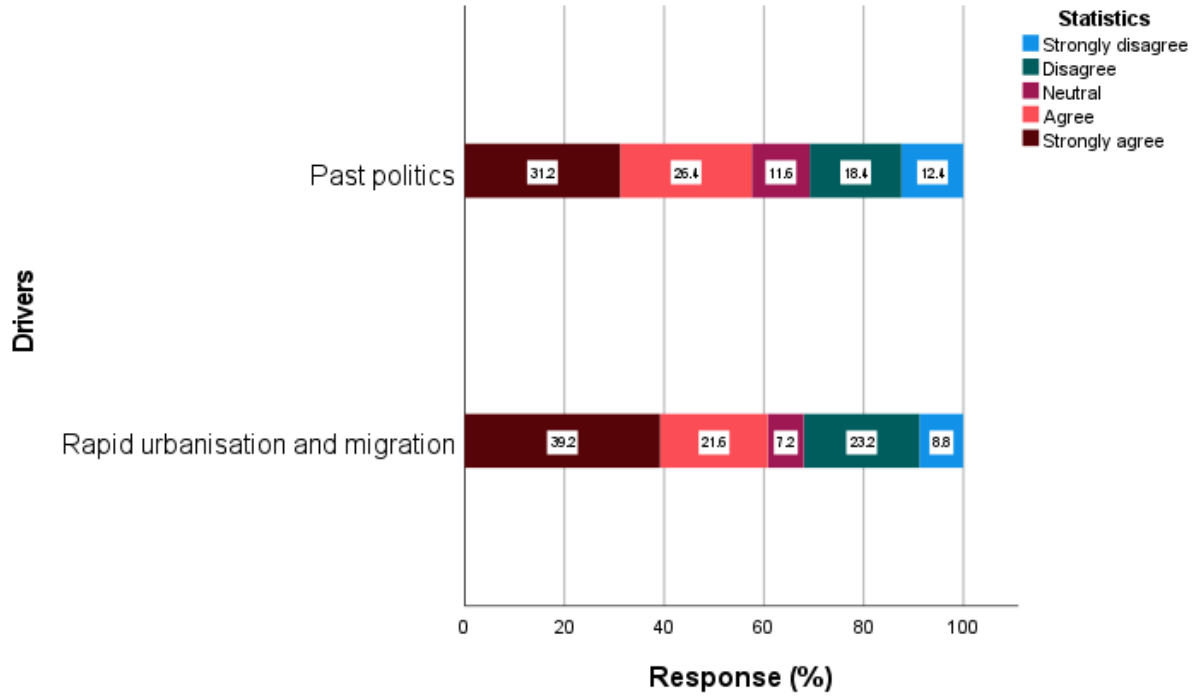
Factors influencing the formulation of administration and governance policies aim to shape the political atmosphere and enhance decision-making in leading the country.

6.2.4.1 Past politics

Political interference in spatial and developmental planning has shown a significant growth as projects are planned but not carried out to term (Gathercole 2004). South Africa, amongst other countries, has a government with policies and legislations that, on paper they are Fabulous except for implementation. There are international legislations that the government has adopted, and goals such as the Sustainable Development Goal and specifically Goal No. 17, which relate to this study. The SDG has informed the formulation of the National Development Plan 2030, our SPLUMA and Municipal SDFs have adhered to its goal; however, there are 5 years left from reaching the plan, which to date does not seem to have paved the way yet.

From experience as an employhave encountered researchers who often cite past mayors and other political leaders, claiming they were given permission to occupy any open space they saw. This placed a strain on development and planning of the municipality, however if we were to apply the theory of Hirschman's Exit, Voice and Loyalty the leaders were trying to give the people a chance to voice their thoughts through development and give them a chance to exit their parents' household while promoting loyalty by being transparent. Meanwhile when applying the theory of Hirschman's one can say that as political leaders, they should have used it in a manner that also benefited the government and not parties only as the people suffering are the communities they promised land.

Political interference at some stage is needed as the representatives are the mediators between local authorities and the communities however, they should give the communities a chance to voice out and plan with the state as to how the development should be and what they wish could be done to improve their day to day lives (Friedman 1992). Vrede like any other towns have councillors who interfere with authorities work with empty promises while others take money for land occupation that has no land tenure. Politicians have been seen meddling in site allocation and housing allocation (Robinson 2012), as people want to have their relatives gain first compared to others. The figure below presents data collected from participants in Vrede town, the two factors were used to better determine if one variable depends on the other variable, thus looking like past polities and migration into the area.



Source: Makananise, Fieldwork, 2025

***Graph 6.1**: Regression analysis participants responses on past politics*

Model Fitting Information

Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept Only	133.645			
Final	111.315	22.330	4	<,001

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	50.656	12	<,001
Deviance	54.798	12	<,001

Likelihood Ratio Tests

Effect	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept	117.563	17.851	4	.001
Poor governance	114.024	14.313	4	.006

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Parameter Estimates

Rapid urbanisation and migration[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
Strongly disagree	Intercept	-3.172	.794	15.971	1	<,001			
	Past politics	.465	.195	5.700	1	.017	1.591	1.087	2.330
Disagree	Intercept	-1.448	.463	9.784	1	.002			
	Past politics	.269	.123	4.792	1	.029	1.308	1.029	1.663
Neutral	Intercept	-.671	.548	1.496	1	.221			
	Past politics	-.365	.189	3.734	1	.053	.694	.479	1.005
Agree	Intercept	-1.841	.503	13.412	1	<,001			
	Past politics	.354	.130	7.431	1	.006	1.425	1.105	1.838

a. The reference category is: Strongly agree.

The data presented above summarizes how participants feel about past politics and the planning of areas, including towns and townships, which were planned separately and proved to be inadequate. The incompetence of the old politics and conflicts has led to land invasions and the formation of informal settlements. It also shows statistically the regression analysis of the two variables in the area based on the drivers that were mentioned. The intercept shows that from the data collected, participants strongly agreed that past politics still have a major influence on the formation of informal settlements and land invasion across the country. There is a 95% confidence interval for the exponents used to determine whether participants agreed with the variable utilised in this section or not.

6.2.4.2 Political affiliation and gains

Lack of access to land tenure and transparency in land acquisition have led to poor land development, as investors and developers are unwilling to invest in unsecured areas where ownership and benefits are unclear. Political affiliations have, since the post-apartheid era, been a problem as each person or party stands to gain for their families or the organisation. In contrast, the main aim in having a political party in power was to ensure there are equal opportunities rendered and there is smooth provision of services across all communities (UN-HABITAT 2008).

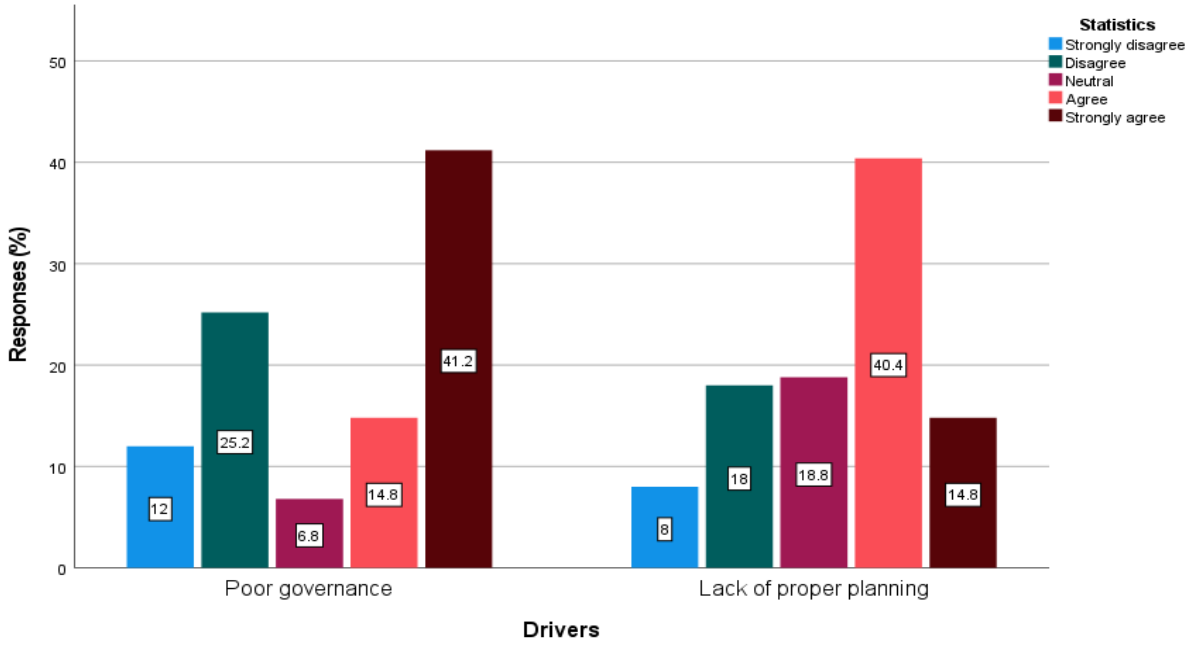
Concerning matters at a larger scale include evictions and relocation, which are used as methods to eliminate land invasion and informal settlements, but these measures may have a much shorter duration (Deininger 2003). Furthermore, governance inferences on the allocation pose a challenge. FAO (2007) argues that to ensure there is success in addressing disputes on land issues while avoiding conflicts in all spheres of the government and communities early and effective actions are required before decisions are concluded on. Failure to effectively deal with the underlying land rights from a political point can result in social unrest or even violent conflict. Political will, a broad alliance for change and sustained common engagement are fundamental for reforms to succeed (Deininger 2003).

A shared understanding of land problems is critical, however, like the challenge of sustaining political will beyond a politician's term of office, often proves elusive within the organisation and as such there will be no peace within communities (Holland 2007). Several participants mentioned that they invaded land and established the informal settlement because they were promised access and prioritization on the list of RDP housing structures when Department of Human Settlement allocates the project to the municipality: whereas there are other participants who owns sites with RDP housing, and they received the housing structures after paying a certain amount to the ruling party. The lack of transparency and corruption has on have led to people waiting for years on lists, while some residents receive services before others, often based on their financial status.

6.2.4.3 Poor governance

Poor governance and land management basically focuses on the development of land and land use management according to the areas Land Use Scheme that local authorities use to ensure there is control over land development (Palmer et al., 2019).This section helped categorize how governance and poor management of land use or development have contributed to the challenges we face as communities. The lack of proper monitoring of planning and leadership competency within our local institutions has resulted in corruption and people losing hope in the local authorities. The government has legislations and policies that were formulated, adopted, and promulgated; however, they are not being implemented. This is partly due to capacity issues among Bylaw enforcers in other areas (Mahlet et al., 2018). Legislative part of the law is there to ensure that everyone adhere to what has been set aside and that there is a successful development and management of land use (Misiker et al., 2024). The importance of sustainable development goals has not yet been recognised (African Union 2015), but it is of importance that Vrede especially Phumelela Local Municipality takes charge and prioritise the implementation of Bylaws and policies they have.

Based on Henri Lefebvre's theory of the production of space the country could have addressed the issue of land invasion before it mushroomed. Proper planning is required within a local sphere adhering to that of the District and Provincial level this is to ensure that there is balance in land uses and equal access to land, thus sustainably using land (Alemu and Lauterbach 2019). Regression analysis was conducted to statistically determine if the variables depend on each other and the ratio they might have. The figure below illustrates data collected to determine which factor, between the two governance issues and poor planning within Phumelela municipality, has led to land invasion and informal settlement formation.



Source: Makananise, Fieldwork, 2025

***Graph 6.2**: Lack of proper planning and poor governance*

Model Fitting Information

Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept Only	114.024			
Final	99.711	14.313	4	.006

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	35.887	12	<,001
Deviance	40.942	12	<,001

Likelihood Ratio Tests

Effect	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept	117.563	17.851	4	.001
Poor governance	114.024	14.313	4	.006

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

Parameter Estimates

Lack of proper planning[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
Strongly disagree	Intercept	-2.392	.739	10.485	1	.001			
	Poor governance	.548	.197	7.773	1	.005	1.730	1.177	2.543
Disagree	Intercept	-1.173	.524	5.016	1	.025			
	Poor governance	.439	.153	8.254	1	.004	1.551	1.150	2.092
Neutral	Intercept	-1.121	.517	4.705	1	.030			
	Poor governance	.436	.151	8.326	1	.004	1.547	1.150	2.081
Agree	Intercept	-.318	.431	.543	1	.461			
	Poor governance	.426	.133	10.298	1	.001	1.531	1.180	1.986

a. The reference category is: Strongly agree.

Inadequate urban planning often fails to accommodate low-income classes, forcing more communities to develop in the outskirts of areas in search of space for their families. Integration of spaces is significant, and the municipality has failed to create an environment that offers such, instead it is always a reactive planning measure. The data collected shows the need to look deep in our leadership and how we can improve in planning.

6.3 Stakeholders for the development of Vrede town

Firstly, the municipality as a stakeholder will benefit more in a manner that it may take the data collected and incorporate it into their IDP to address the existing issues and be able to formulate framework to address land invasion and emerging informal settlement not only within Vrede but in all towns under Phumelela local municipality thus Warden and Memel. The data collected from this study may assist the municipality in developing a feasible spatial planning strategy that is implementable in practice to address the challenge of land invasion and land development, as previously mentioned in the SDF, by learning from the experiences of other towns, cities, and countries worldwide.

Among the stakeholders who will benefit from the study is the SAPS (South African Police Service), which will help reduce the high crime rate within the informal settlement and the surrounding areas. According to the Phumelela Spatial Development Framework (2024), Vrede is the first town in the Phumelela municipality to have the highest crime rate, which is recognized as a development constraint for the town. However, if there was no informal settlement it would be of ease for the SAPS to eliminate the current criminal activities since there would be access to the residential area.

Local dwellers stand to gain access to sustainable service provision while officials and health care providers will have easy access if there is an emergency, with this study being conducted and suggesting the use of one investigated spatial planning strategy to create a habitable human settlement to address the challenge of land invasion and informal settlement the local dwellers will have a safe and sound environment to live in. Mavakgeng (*Vrede informal*

settlement) is waterlogged and as a result it has been written off by Human settlement as a residential area, hence a liveable and reliable area with a healthy environment is needed.

Town planners conduct studies in various places, enhancing knowledge gain across different levels, including international, national, district, and local levels, and providing ideas on how to overcome challenges faced within their respective communities. Not only Town planners will gain from the data collected but IDP managers, councillors, and developer which as a result will ensure all stakeholders make informed decisions in project development, implementation and economic growth of the town and the municipality.

6.4 Why did the Vrede informal people invading the land?

There are several reasons people invaded land, there are participants who invaded land because they saw an opportunity to have a place they could make home. Some people claim they constructed illegally to get priority from the municipality when the area is formalized, or the site allocation process begins. While engaging with the residents, the researcher got a chance to hear that others took land because they were told to reside by politicians who wanted votes, “occupy any open space”.

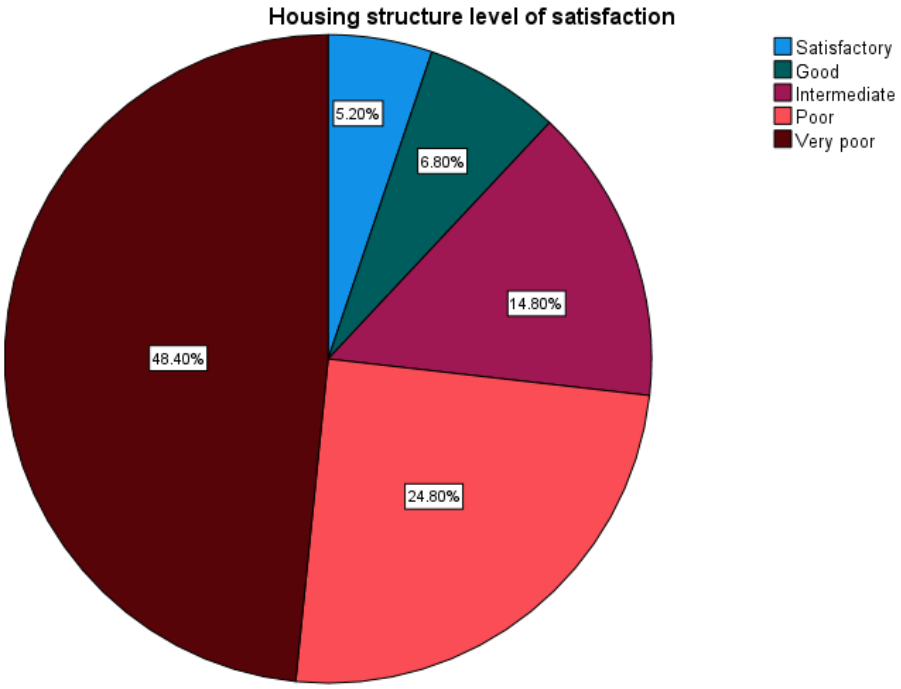
This has posed a challenge especially while there is no paper trail, and the issues cannot be linked to any of the leaders we have locally at the moment. Amongst all there are residents who are there reason being they have animals they would like to keep in the yard, meanwhile there are households that do not have a place to call home as they migrated to Vrede due to work opportunities, and they now have families with children who are going to nearby schools. While other respondents grew within the settlement and parents have passed on and they inherited the housing structure.

6.5 Challenges of land invasion

The government is held responsible for the provision of basic adequate services to the area even when it is an informal settlement (Ward and Peters 2007). The main challenge remain a place that was not planned for even on the IDP’s and SDF’s implementation plan or projects. When there is no budget allocation for certain projects especially when they major, it creates backlog in provision of services to other communities within the municipality (Durand-Lasserve and Rakodi 2009). Informal dwellers always want to have the sense of belonging and as a result often requesting to have land tenure which is impossible reason being either the land is privately owned, or it belongs to the state (Payne 2001).

Land invasion hinders developments and as such most investors turn to shift the focus of funding as there is no available land, whereas to the municipality it hinders the development

of other area as per the earmarking of the SDF and the projects budgeted for in the IDP. An increase in land invasion mostly results in increased environmental concerns (West Rand District Municipality 2013).



Source: Makananise, Fieldwork, 2025

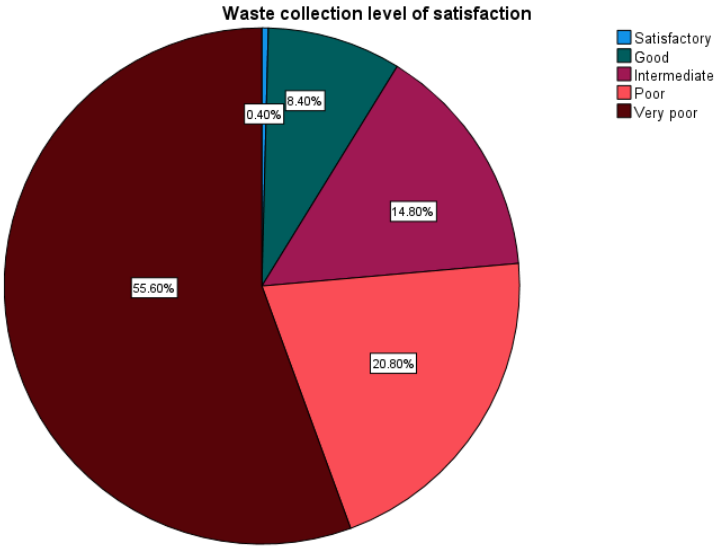
***Pie chart 6.2**: The decline in access to adequate housing structures*

Poor governance and leadership are believed to have played a role in the development of the informal settlements as people use the communities to settle, they are quarrels, these were thoughts from some respondents when collecting data. The housing issue is a sensitive matter that has received attention, but we should also explore other areas to create employment in Vrede and invest in development, given the area's potential.

6.6 The observed pointers in the emerging informal settlement

The rapid and widespread development of informal settlements has created a significant backlog in housing development and site allocation in most parts of South Africa (Nkoane 2019). It has made planning difficult, as municipalities are forced to adopt reactive planning instead of proactive planning, which is often attributed to municipal fault. Informal settlements typically lead to environmental degradation and negatively impact the economic development of the area by devaluing it. According to Weakley (2014), Informal settlements often lead to illegal dumping, resulting in various environmental concerns, including air pollution, and posing a threat to the surrounding wildlife. Underground water contamination is associated with informal settlements together with unplanned sewer spillage on the environment. As an employee, the researcher noticed that political parties play a significant role in the emergence

of informal settlements, primarily to gain power (Ward and Peters 2007). The pie chart below is a presentation data collected on waste collection levels in Vrede. The findings presented in the study was extracted from m direct observers, interviews and questionnaire that were shared with participants.



Source: Makananise, Fieldwork, 2025

***Pie chart 6.3**: Waste collection levels in Vrede*

The respondents have shown the need for development of proper adequate houses, as 66.8% of the respondents have indicated the need to have housing rather than the ones they are currently residing in. They have outlined several challenges they face due to residing in informal settlements, particularly during periods of heavy rainfall.

6.7 Opportunities of development deduced from land invasion and emerging informal settlement in Vrede

Land invasion and the emerging fast growing informal settlements of Vrede town in Phumelela may be viewed as a negative effect, however these two factors do have opportunities within them. Situations of fast-growing informal settlements has triggered the growth of urban areas while in others they have posed a challenge especially in adhering to the national polices and provision of basic services (Sandoval and Sarmiento 2020). Land invasion and informal settlement create opportunities for more people to access land for housing construction, as each person is either allocated land by a chosen leader or measures their own yard according to their needs and the type of development (Nkoane 2019).

The municipality have the liberty to request more funding from the Department of Human settlement Free State reason being that the informal settlement has been growing since they last funded the institution to conduct a Township Establishment. Having referred to Henri

Lefebvre's theory of the production of space the residents have shown the need for an amendment to the SDF and the LUS in order for the local authority to accommodate more people in the process of site allocation for any type of land use accordingly. Meanwhile, Hirschman's theory of Exit, Voice, and Loyalty emphasizes the importance of people's voices in participating, particularly during the drafting of local legislation or policies, allowing them to convey their impact to authorities.

Informal settlements development has led through the years to the creation of Breaking New Ground in 2004, which was aimed at creating more affordable housing and encouraging a more adequate and integrated society with sustainable resources (Department of Human Settlements 2004). Since Vrede is surrounded by farms that produce, process, and supply other provinces, labourers are readily available within the town, as 30.8% of the population is unemployed and has families to support. To observe how the institution will implement a densification strategy to address the challenges of space and site allocation. The issue of connectivity shall thus be addressed through the implementation of the strategy.

6.8 Chapter summary

Crystalise the takeaways. For settlements to become informal, it is a process which is continuous and exacerbated by an array of drivers including Socio-economic factors being Poverty and unemployment and Lack of access to affordable housing, Governance management issues on political factors being Political affiliation and gains. This requires strategies from a spatial planning perspective to curb the negative outcomes and prompt the opportunities of developing a habitable human settlement in small towns which will thoroughly be discussed in chapter 7.

CHAPTER SEVEN: SUSTAINABLE HUMAN SETTLEMENT STRATEGIES TO CURB LAND INVASION AND EMERGING INFORMAL SETTLEMENTS IN VREDE TOWN

7.1 Introduction

The chapter of the study will analyze objective number three of the study, which was set for the study based on the problem statement and literature that was reviewed in the previous chapters. The objective is to propose a sustainable human settlement strategy that can address land invasion and emerging informal settlements in Vrede town, and other small towns experiencing similar challenges in South Africa. The chapter will unpack subsidiary questions which were stipulated in chapter 1 to guide in evaluating the suggested sustainable human settlement strategies to curb land invasion and emerging informal settlement challenges that the town is currently faced with.

The objective will be informed by theories such as Henri Lefebvre's theory of the production of space and the theory of Hirschman's Exit, Voice and Loyalty together with the garden city movement theory that was established by Ebenezer Howard in the Publications Garden Cities of To-morrow. The application of the three theories content allowed the researcher to review, analyse and compare the literature to what the respondents envisions to have developed in the area. An understanding from the perspective of being a municipal employee will be applied to better understand the situation in Vrede Mavakgeng informal settlement.

7.2 Sustainable human settlement strategies (programs)

This section focuses of reviewing literature of four human settlement programs or strategies of combating land invasion and informal settlement formation in Vrede and they assist in informing other institutions with similar issues. Literature was reviewed and analysed on each of the proposed programs, presentation of data collected on the study and the findings have been presented in a form of graphs and pie charts on each program.

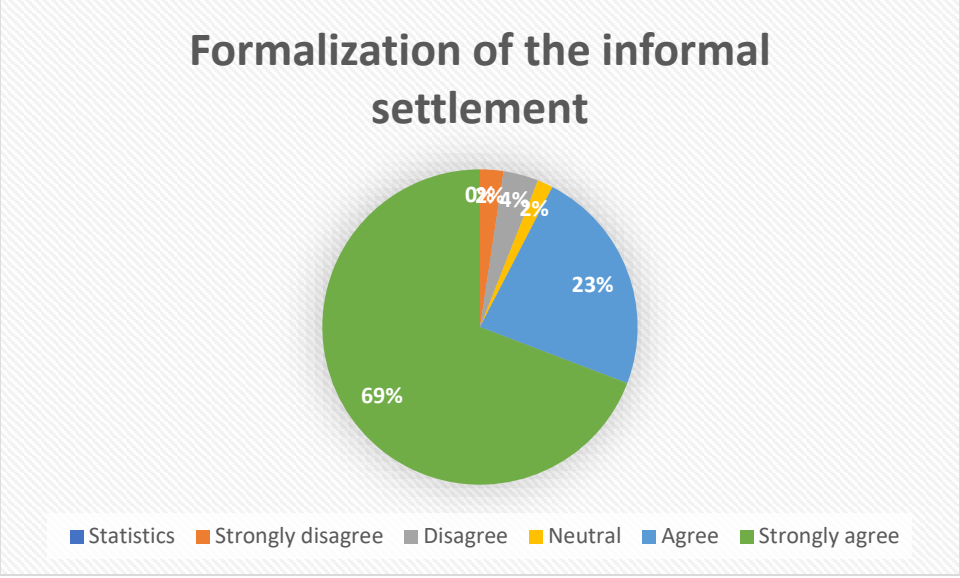
7.2.1 Informal settlement upgrading programme (ISUP)

The aim behind formulation ISUP also known as Informal settlement upgrading programme is for the government to formalise and plan within areas that have existing settlements (Hunter and Posel 2012). As per the United Nations Human Rights, Office of the High Commissioner, (2020) the main aim of upgrading informal settlements through programs that are adapted from an international level to local government spheres is to eradicate poverty and create safe environments for people and creatures as per the Sustainable Development goal 17. The program only adopts the relocation plan where it is impossible to upgrade the settlements by the Geotech reports are not in support for such developments (Abbott 2002). Interventions in the built environment on informal settlements upgrades through the provision of physical

infrastructure have been proposed as a strategy to improve economic, social and health outcomes for informal settlement dwellers (Brown-Luthango et al., 2017).

The whole concept of upgrading implies an acceptance by governments that the settlement to be 'upgraded' is legitimate and that the inhabitants have a right to live there but a human settlement upgrade driven by individual/household investment does not address the need for neighbourhood/ settlement wide infrastructure – water pipes, sewers and drains, paved roads and paths, electricity, schools, health care facilities, and more public space for recreation (Satterthwaite 2012).

Mavakgeng informal settlements has shown a huge decline to qualify for settlement upgrades which has been caused by the Geo-tech reports that were carried out by the Department Of Human settlement after the institution requested for assistance. The pipeline register that is kept and updated by HS as received by the municipality has recorded the level of soil type and the results of the site capacity for human habitant which has failed. There is lack or limited to no proper access to sites especially in rainy seasons as the roads are muddy and makes it difficult for emergency rescuer to assist. The area has been deemed waterlogged and most households faced issues with water washing away their furniture's and structures hence from the data collected they have not agreed to be formalized as the site comes with its issues. The pie chart below shows the results gathered of whether we can have Mavakgeng formalised of not.



Source: Makananise, Fieldwork, 2025

***Pie Chart 7.1**: Presentation of data collected on informal settlements upgrading*

There are residents who have suggested to be formalised and remain in the settlements especially those that it has an advantage to them. 69% of the participants strongly agree that

the area should be formalised despite the issues that they are facing, however these are participants who either have better access to the settlement as they are allocated by the main road and those who have livestock within their sites. Other residents from the area had reasons like where the institution will relocate them to might be far away from work and schools and therefore, they are required to adjust. Although the formalization of the area will preserve land for future use, the area is not human habitant and poses health dangers to the residents.

7.2.1.1 Opportunities

The implementation of the Informal settlement upgrading programme has its own advantages and disadvantages based on where the informal settlement is located together with how fast the settlement is growing (Wakuru and Majani 2006). Formalization of a settlement will ensure that residents keep their homes and sites together, will have access to their places of work as before, and to those who have livestock, they will continue to grow them as they were before. It will ensure that there is improved adequate access to service provision than the period was not registered and formalized or recognised as a well-established area (Parsa et al., 2011). Planning is done to the desire of the residents following how they have located their sites which ensures there is fairness and planning participatory (Flávio 2001). There are higher possibilities of new developments and growth in economic development as a result of access to service provision and better infrastructure installation as well as management which ensures security to investors (John Abbott, 2002). Informal settlements are often associated with theft and unsafe environment however formalizing an area will ensure that all stakeholders such as the SAPS for protection of the neighbourhood together with other policing forums.

7.2.1.2 Challenges

Proper planning may be difficult looking at how people have allocated themselves as some settlements have to concept of land allocation. Connectivity may be a major obstacle as in current states residents are faced with issues of municipality (Lochner , 2013), healthcare providers and other service provers accessing sites in time when required to. Some settlements are often located in a hazardous area, such as on top of gas, oil, electrical pipes, or other dangerous railways, with no knowledge. The government often has to account for the loss of lives should those pipes burst or have any other issues that may be dangerous to the informal dwellers (Flávio 2001). Installation of services especially those of water and sewer systems are often difficult as planning should follow the pattern sites are located and that hinders development while exhausting municipal resources and funding. Other difficulties are associated with environmental issues where DESTEA does not pass the EIA due to endangered species and the health issues that may negatively impact the lives of residents in future.

7.2.1.3 Will the strategy work in Vrede?

From the municipal employee's perspective, the strategy is unlikely to succeed due to several reasons cited by the Department of Human Settlements in their investigation following the municipality's request for intervention to eliminate the informal settlement. The geotechnical reports submitted concluded that the area is waterlogged, and therefore ruled the settlement not to be a human habitat. DESTEA participated in processing the EIA submitted in line with the Geotech studies, supporting the outcome from the Department of Human Settlement in the Free State. The strategy will create chaos because households are not spatially organised in any pattern; consequently, the allocation and installation of services like sewer systems and water pipes will be costly to the municipality and may take longer. Having an existing settlement formalised, such as Mavakgeng, would not be easy due to the misalignment of sites and the order. Providing services is a challenge, with a high possibility of decline, as the area was in use before planning. This can affect street grading sections, potentially impacting other service delivery areas, including emergency attendance (health), police, waste collection, and water provision. Participants also expressed their preference not to formalise the area, citing several issues they face, including seasonal flooding, non-user-friendly roads for children and adults commuting to school, and the community at large.

7.2.1.4 Has the municipality tested the strategy and the outcome

The municipality wanted to pursue the strategy due to the housing backlogs it faces; however, after the request it made to the DHS, which was declined, it decided not to pursue the strategy. Reasons for not pursuing the strategy's utilization were due to the dangers it may pose to the community at large, especially children. Instead of implementing the strategy, they opted for Township establishments to address the allocation of housing and other land use sites.

7.2.2 Breaking New Ground Programme (BNG)

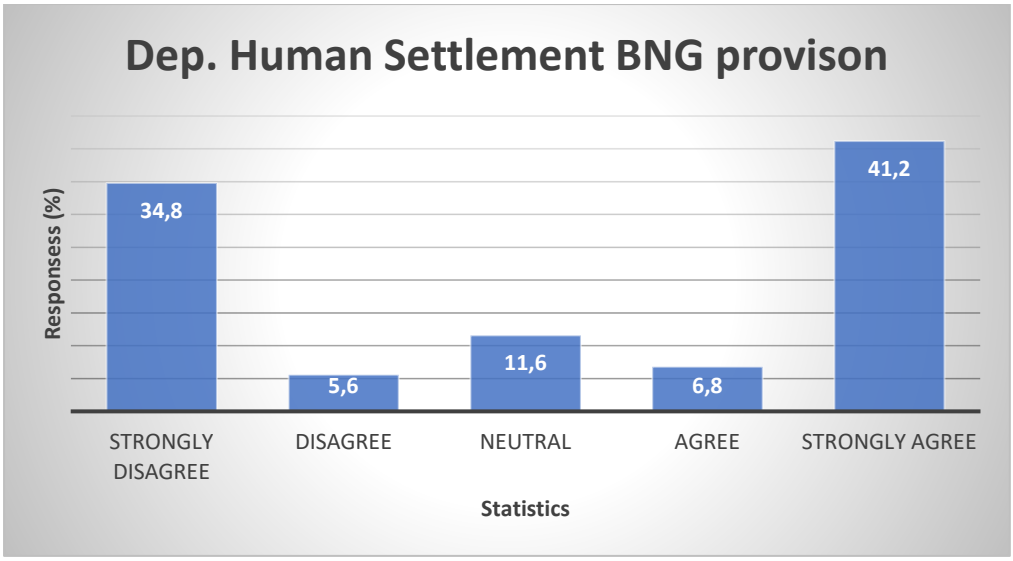
The newly introduced human settlement programme, aimed at eradicating informal settlements in South Africa, is a program that has been implemented and is in use in other continents, such as Europe (Benton and Ahad 2019). Over the last several years, the government housing provision has invested over R29.5 billion towards the provision of +/- 1.6 million housing opportunities that have since allowed at least over 500k families the opportunity to have a household in most past public housing stock (Huchzermeyer and Karam 2016). The lack of affordable and sustainable land for human settlement, particularly for low-cost housing, has led to the housing programme primarily expanding existing areas, often on the urban periphery, resulting in limited integration.

The aim is to plan within existing settlements, given the limited availability of land for residential development. This is achieved by formalizing most informal settlements and ensuring they have titles. This is achieved by formalizing most informal settlements and ensuring that they

have title deeds for those sites (The Housing Development Agency 2004). Post-1994 extensions to settlements have generally lacked the qualities necessary to enable a decent quality of life, however poor funding strategies and poor alignment of budgets together with priorities between line function departments and municipalities responsible for providing social facilities in new communities have resulted in housing backlogs (City of Ekurleni- Dep. Human settlement 2021).

The strategy was formulated to create sustainable human settlements and promote integrated societies that are inhabited by humans with adequate service provision and quality housing structures that are subsidised by the government (Khowa-Qhoai and Tyali 2024). The new housing units are medium-rise, four-storey buildings for RDP, rental, and/or buying through bank loans from the program, as the aim is to ensure that minimum land or space is used for maximum result. Research has shown that freestanding houses take too much land and only accommodate a few people; hence, they have strategized to build up and use space sustainably (City of Ekurhuleni- Dep of Human Settlements 2021). Amongst other issues, the recent surge in migration into South Africa's developing towns and cities has led to a significant increase, which in turn has had negative impacts, such as homelessness among individuals, particularly at a late age, as various people reach their retirement ages (Hoekstra and Marais 2016).

From the institution's employee's perspective, the municipality could improve by reassessing its current housing subsidy strategy and the Department of Human Settlements' assistance applications, rather than merely addressing the challenges they face. The institution faces challenges related to service delivery and land for development. The primary concern is how people feel about having to share their space, especially since the government plans to increase household sizes rather than expanding the ground. Having looked at the programs suggested and how participants feel, it is important to present the data collected as shown below.



Source: Makananise, Fieldwork, 2025

***Graph 7.1**: Presentation of data collected BNG housing provision*

Participants with first-hand experience of land allocation and housing construction issues in urban peripheries comprise 34.8% of the population, who strongly disagree with the method. Other reasons identified during interviews included that certain individuals often benefit from increased corruption, particularly in government entities. The strategy, since its establishment, has assisted the municipality in addressing its housing needs; however, it does not necessarily resolve the persistent challenge of housing backlogs faced by the South African government.

7.2.2.1 Opportunities

All citizens have an equal opportunity to access housing structures and enjoy formal security of tenure through the allocation of a title deed, following the formal registration of the area with the DEEDS office and the general surveyor. There is always an integration of different housing types of sectors, such as the bond, subsidized, and rental houses (Governa and Sampieri 2020), to create a community that redresses the past imbalances and focuses on the development of social cohesion. According to the Constitution of the Republic of South Africa, citizens have the right to access adequate housing provision that promotes a healthy environment and a safe place. The programme offers opportunities to access affordable rental places, which can be rented to buy or rented for those who cannot afford to purchase the structure. The strategy creates economic development opportunities, as during the construction of the housing structures, equal employment opportunities are created for all (Hongbin Li and Li-An Zhou , 2005). The programme may be used to promote mixed-use development in the community, especially through the use of a densification strategy by using natural resources efficiently and sustainably (De Jong 2019).

7.2.2.2 Challenges

Although equal opportunities are offered to access housing structures, the allocated houses often fall short of meeting the housing demand, as South Africa faces a significant challenge in housing infrastructure (Benton and Ahad 2019). The strategy in most cases is more focused of the provision of housing compared to other land uses that are key to economic development and social development within communities. The processes usually take longer to unfold, leading the community members to lose hope and result in strikes spiking as these processes are usually associated with political affiliations and corruption (Pithouse 2009). Political gains are a challenge that most provinces are faced with as people or the ruling party politically always want to have sites allocated to the people who paid and their families, at the end the programme is not about the lower- and middle-class earners but about who can afford to buy into the process which is not fair. The process often sidelines the group of people who do not have subsidies as they are supposed to benefit, the reason being they may not be able to afford to purchase the house or have enough funding to plan for payment arrangements for the structure (Kecia et al., 2009).

7.2.2.3 Will the strategy work in Vrede?

The strategy has been working for years and is currently being used to do infill developments of housing structures, especially ones that were left unfinished. Having examined the rate of population growth and the emergence of informal settlements, it is clear that the programme may now be effective, as other land use developments are underway. The omitted land uses are mostly those that can revamp the economic growth of the municipality by reducing the unemployment rate and offering fair chances to residents to bid for sites advertised through section 14 of MFMA. The strategy has not managed to provide adequate housing structures to eliminate the challenge of house backlogs faced by the municipality to date. From the researcher's perspective, the strategy will continue to decline because it is a quick fix that leaves a significant gap unaddressed and unattended in Vrede. The strategy that should be explored for the municipality should be one that not only focuses on the provision of housing structures but also on the improvement of economic growth and sustainable use of natural resources, of which, in this case, is the land.

7.2.2.4 Has the municipality tested the strategy and the outcome

The municipality has been using the strategy to eliminate informal settlement and provide adequate housing access in Vrede. Although the strategy has faced setbacks within the municipality, it has enabled the institution to address the housing needs and backlogs in the area. The strategy at times takes longer to unfold. This is evident in the case of Extension 5 of Phumelela, which has been in development for 2 years. Human settlement has also handed

over the Township establishment to the municipality. The area currently lacks electricity, a working sewer system, and water provision, due to the improper installation of these systems. However, the need for sites has led people to reside there before completion, as the processes may take longer. The municipality has since sold sites, which are currently being developed for those in need of accommodation. The only issue is that the TE has prioritised residential areas over other uses, such as business sites, which are based on economic development.

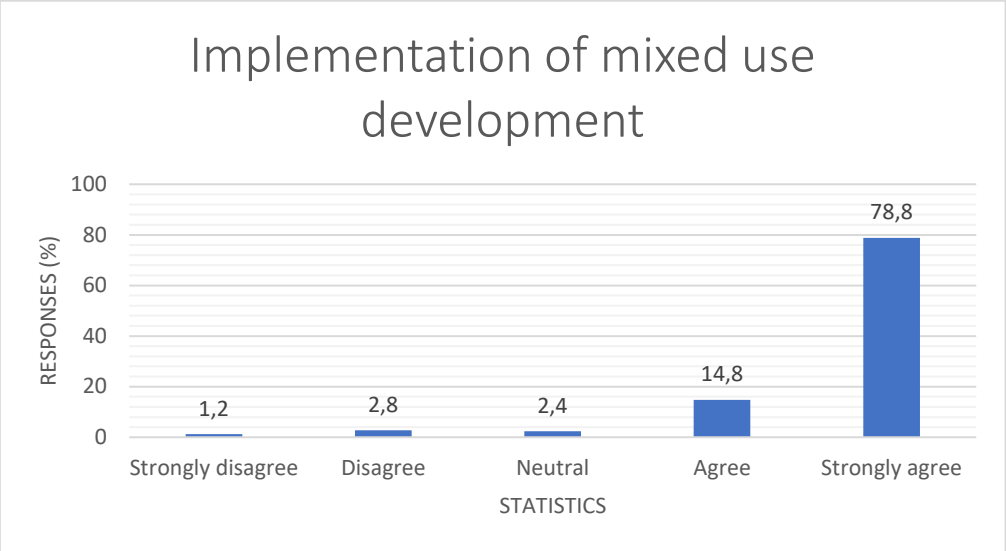
7.2.3 Implementation of densification strategy (mixed-use development)

Various cities and towns have since implemented the use of Densification policy as a strategy to promote social interaction and cultural diversity across the world, one of those cities is Johannesburg, South Africa (Todes et al., 2018). According to the Phumelela Spatial Development Framework (2022) and the Department of Human Settlement of the Free State, Mavakgeng informal settlement in Vrede town has been declared inhabitable by the studies conducted, as the area is waterlogged; however, residents have invaded the municipal land illegally and continue to reside. Densification strategy can be defined as a design of objectives on major policies and plans of achieving goals outlined according to the institution‘s plan. The strategy may be articulated for a broader term as per the company’s desire thus to address challenges of land, economic and housing development together with adequate service access and provision (Makananise 2019).

The concept of densification strategy has been used as a form of policy to address land development through sustainable development to efficiently use the existing natural resources (Jehling et al., 2020). It is said that more than half of the European population resides in cities to date, and the population is estimated to rapidly keep growing, and as a result, challenges keep emerging as well (European Commission 2011). The Greek government became aware of the issues arising in the city of Athens, where the population was growing gradually, and made a proposal to compact the city through the usage of a densification strategy (Annarita et al., 2020).

The Phumelela’s SDF has mentioned the need to use a densification strategy to create more compact towns within the municipality, however this has been mentioned without a proper guiding legislation addressing the municipality or small towns within. Densification has been taking place in small buildings within the towns which has proved to work, although there are challenges the town is currently faced with the implementation of a densification strategy, but it might be beneficial. The town is sprawling outwards which is not sustainable planning although there are empty sites and sites with dilapidated buildings which can be used for development in town either residential or economic development. The data collected from the study and literature reviewed shows that the implementation of the densification strategy has

potential for to bring upon gains economically and environmentally as presented on the graph below.



Source: Makananise, Fieldwork, 2025

***Graph 7.2**: Presentation of data collected on Densification strategy*

Participants' responses are crucial to the researcher especially when the data speaks to what they desire and wish to have developed in their areas. The graph below is a summary of the data collected from all participants which speaks to the utilization of land sustainably and investing on existing resources to ensure that the future is secured, and space is used adequately. From the data collected and presented above, 78.8% strongly agree with the implementation of mixed-use development, which can be achieved by the utilization of a densification strategy as a human settlement program to combat land invasion and informal settlement.

7.2.3.1 Opportunities

The strategy will use the existing infrastructure within the dense area in provision of basic services and reduction of pollution caused by the high dense population and inspire mixed use developments to maximise the use of public transportation and preserve the use of land (Newman and Kenworthy 2007). The compact city model and sustainable development brought upon by the densification strategy contributes highly to the enforcement of security for open space earmarked for economic and residential development as well as Agriculture (Conticelli et al., 2017). The main idea of using a Densification strategy is to ensure that the natural resources are preserved, and communities have access to efficient transportation, while minimising Urban sprawl (Stanitsa 2015).

The strategy has potential to reduce land consumption in a manner of building outwards than building up to sustainably reserve land for future purposes as population is continuing to grow

(Todes et al., 2017). Phumelela has shown a decline in terms of transportation and connectivity to surrounding areas, which the implementation of densification can address as the strategy aims at promoting the usage of public transportation. While encouraging the use of public transportation it will minimise carbon monoxide produced by car which reduces the risks of air pollution and ensures that our environment is clear and clean (Gehl 2013).

7.2.3.2 Challenges

Some of the challenges that the densification strategy portrays are associated with loss of green infrastructures or green spaces in and around town as the implementation and the development of this strategy required space (Harrison et al., 2014). Creation and promotion of socioeconomic opportunities may be difficult as community members may feel that the implementation of the strategy may be negative to their businesses and create residential spaces that are not affordable to the lower classes, according to Todes et al., 2017). The neighbourhood can be seen as one that loses its character as it will be defined by densification. According to Christine et al., (2015), densification may increase property value in towns and surrounding townships, although this may be positive in other aspects, but it can have a negative impact on lower-income residents. This may result in societies that are not equal and may lead to communities that are not united similar to the apartheid era (Barbosa et al, 2007). Lack of legislations or policy enforcement may lead to delay of developments and political interferences as community members at most focuses of the outcome and not the process that have to unfold for a success implementation (Bowler et al., 2010). The municipality does not have a densification strategy policy which may hinder a success in the implementation of the strategy and enforcement of other legislations that support the development.

7.2.3.3 Will the strategy work in Vrede?

From a municipal employee point of view the strategy has a high chance of success as Vrede town is surrounded by Agricultural areas and they are often privately owned being used for cultivating and growing live stocks. The municipality is exhausting its land as they are implementing Township establishments to address the issue of informal settlement and growth in housing need, however there is a need to consider other developments that will enhance growth and development of the Municipal and the town's economy. Implementation of the densification strategy has shown a challenge of increase in market value of either building or land surrounded and within a densified are, however there are other means that the municipality can employ to ensure that the densified area accommodate all high- and low-class earners. The institution to ensure that the strategy works successfully need to develop a densification strategy policy that will assist in guidance of how development can be and what needs to be done for the society to be inclusive.

7.2.3.4 Has the municipality tested the strategy and the outcome

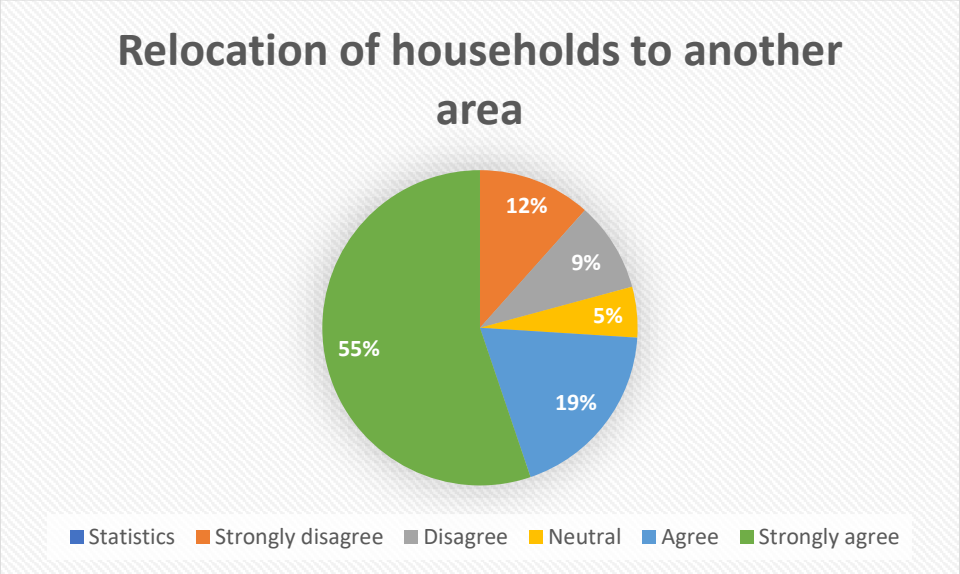
The municipality has not in full capacity implemented the strategy especially with residential areas, however within the Vrede Town in business areas it has been slowly introduced and has been working positively. The municipality has mentioned the implementation of the strategy in the Spatial Development Framework as one of the goals to be achieved that can promote the growth in economic development, job creation and sustainable service delivery as the vision of the municipality. It may not have been documented as it has not been viewed as such, but the municipality has been doing brown fill developments in sites that were vandalized, and the municipality is not making use of. These sites a more often given to Non-profit organisation to assist growth in community development and assist in educating youth in different work fields and their schoolwork. From the researchers view as the municipal employee and the researcher the strategy has more advantage of working compared to the suggested strategies.

7.2.4 New township establishment and relocation of households

Based on the data collected there are respondents who prefers to be relocated from Mavakgeng informal settlement t to another area, the area within Vrede as long as it is safe and there are services provision according to their wishes when we held interviews. Town establishment has been defined as the legal process of converting land into a registered and recognized formalised area that has tittle deed and Erven numbers that is registered by Deeds and surveyor general offices (Henderson and Morné, 2011). The TE does not focus of the development and subdivision of residential sites; however, it is informed by the department of human settlement polices and other Town planning legislation on other land uses to be incorporated such as commercial, educational, business, municipal, churches or community facilities (Perloff, 2007). The process of acquiring funding for such process is requesting from the Department of human settlement thus if the institution does not have the capacity to carry out such establishment.

During the apartheid era South African towns and townships were established using the Group Areas Act which has now been replaced by (SPLUMA) Spatial Planning and land use management Act 16 of 2013. The Act has simply eliminated all unjust polices which were intended to establish unequal provision and allocation of land and other resources and the Act informs the formulation of SDF within municipalities that simplifies the management of developments informed by the 5 principles outlined in chapter three. Deduced from the data collected, 55.2% of residents would like to be relocated from Mavakgeng due to the challenges they currently face, including issues related to services, accessibility, and flooding, among others.

The municipality previously failed to successfully eliminate the informal settlement, despite the provision of housing and a new TE being conducted. To successfully establish a new area and close down the informal settlement, the municipality would need a strategy, such as grading the area and using it for municipal fleet storage, agriculture, or a recycling area for individuals and private companies. According to Nowitz, (1986) TE are to be conducted or compiled and processed by town planners informed by the municipality's Bylaw, LUS and SDF. From a municipal employee point of view relocation without a proper strategy in place of permanently eliminating the informal settlement site will only lead to the formation of other informal settlement sites and construction of houses which will only re-invent the issue. The pie chart below presents data on the level of satisfaction with household relocation.



Source: Makananise, Fieldwork, 2025

***Pie Chart 7.2**: Presentation of data collected on new township establishment*

The graph above presents data collected from participants regarding their feelings about a new township establishment in Vrede, aimed at addressing the challenges of land invasion and emerging informal settlements. 55% of respondents strongly agree that a TE will provide everyone with a fair chance to purchase a site. In contrast, each project TE focuses on issuing sites to informal dwellers. During the interviews, most people raised concerns about the prioritization of informal dwellers compared to those who follow the law. It was a question of whether or not to be taken seriously by the law if the law has been broken first.

7.2.4.1 Opportunities

A new township establishment will ensure that the municipality formally subdivides an area and has it registered by the law at the office of the Surveyor-General and the Deeds Office. The owners of the allocated sites will rightfully and lawfully own the site, as they will have security of tenure. A township establishment benefits new developments by providing security,

as mandated by law, with documentation provided to the owner, Todes, et al. (2017). This strategy will as the same time ensure that there is equal opportunity of different land uses to be allocated such as residential, business, churches, schools, industry among other shaving looked at the guidelines from the Department of Human settlement as the funder of the project and the Town planning standards of land use allocation and developments. This strategy can bring about job creation opportunities with the town and ensure that there is an improved infrastructure provision and management (Perloff et al., 2007). TE offers adequate access to residential plots as the strategy addresses housing shortages and a new opportunity to a sustainable planning of an area where residents do not haphazardly allocate themselves sites with none access (Evans et al., 1956).

7.2.4.2 Challenges

Township establishments are often very huge applications, and for the process to unfold, it takes a long time with different glitches that the consultant or the municipality may face that hinder work from being completed within the stated time (Evans, et al., 1956). The challenge with this strategy is that on the inception of each project, the public has to be notified, and when the process is still unfolding, residents turn to allocate themselves sites, thus leading to land invasion and forming informal settlements (Henderson and Morné, 2011). The processes of getting the application approved at the municipality often takes longer than one year and issues of housing and sites allocation backlogs are increasing daily. Getting all stakeholders for the legal process, comments, and inputs takes longer, and consultants or municipalities have no control over which often results in strikes that are spotted as a lack of service provision (City of Ekurleni- Dep of Human Settlements 2021). The public's understanding of the processes that have to be followed before an area is deemed suitable for human habitat are at most misunderstood by the public which hinders public participations to be carried out in time.

Another challenge that hinders an area to be established is funding as the department of Human settlement at most have projects within a province as all municipal institutions depend on the support they give (Yun Song et al., 2020). Corruption is a significant challenge facing South Africa, characterized by a lack of transparency in decision-making, particularly in legal procedures and inclusive development, where all stakeholders aim to benefit from the project before the residents (De Jong et al., 2015). According to Harvey (1989). Some hiccups arise from land ownership situations where municipalities have funding but the land is privately owned. In such cases, municipalities must process the acquisition of the land fund to purchase it, along with the change of ownership.

7.2.4.3 Will the strategy work in Vrede?

The strategy has been effective for years; however, considering the population growth in Phumelela Local Municipality, the development and demarcation of residential sites may not be viable in the future. The municipality has been employing a reactive planning approach to address issues such as the growth of informal settlements and the invasion of private and municipal land. Prioritizing the establishment of residential sites yields negative results, as it fails to create jobs and utilize land for development in other sectors, which could foster economic growth. This is because residents must have income to pay rates and taxes. From the reseaarchers perspective the strategy will not work for long reason being that it hinders development of other land uses that can grow the economy of Phumelela and create jobs

7.2.4.4 Has the municipality tested the strategy and the outcome

The municipality has been making use of this strategy for the past 20 years through funding received from the Department of Human Settlement in Free State. The process is that the institution request funding for such development and motivate the reason why they should be included in the financial year then allocated a consultant if approved. At first when the informal settlement had not yet grown the way they have grown recently the strategy showed positive response in relation to site allocation and elimination of housing allocation backlogs, however in recent events the municipality has investigated, and the strategy is declining. The reason it was concluded that the strategy is not working was due to an increase in formal settlement formation. Community members at most occupy land illegally with the mind-set that the municipality will allocate them sites from the TE, meanwhile there are other people who are following procedure to acquire sites.

7.3 Is there a need for a human settlement program?

South Africa is faced with a huge challenge of housing backlog and growth in informal settlements, there is a need to create communities that are viable, integrated and sustainable (Annarita et al., 2020). There has been an increase if formation of illegal settlements that has since resulted in backward planning as there are always cases of land invasion and at most it is associated with land that has been earmarked for other developments. The only human settlement strategy that the municipality has at the moment is RDP also known as Breaking New Ground program (Satterthwaite, 2012) which is more of allocating sites and social housing together with tittle deeds to the sites. The municipality currently is not in possession of a sustainable human settlement strategy to curb informal settlements and do away with uncontrollable developments that are not governed (Conticelli et al., 2017).

Phumelela Local municipality has been assisted by the Free State Department of human settlement thus to provide sites for resident and social housing to those who are unable. The department is limited by budget from the municipal employees' point of view, and they can

only provide a certain number of houses; however, this is insufficient to address the issue at hand. Similar issues are associated with requests or applications for Township Establishments funding, which takes longer than expected. It would be beneficial for the municipality to have its own approved human settlement program that does not depend on departmental approval at all times. The significance of the program will be a sustainable provision of service delivery, and another advantage will be curbing land invasion, which results in successful illumination of any formation of informal settlements.

7.4 Rated the best strategy amongst all

Having thoroughly explored all human settlement programs as strategies that could be possibly implemented and utilized in Vrede town the researcher looked into other literature reviews compared to other areas where the strategy has been previously used. The researcher was assisted and supported by the data collected, which was then compared to participants' feelings about each strategy if it were to be implemented. The strategy most considered by respondents was the densification strategy, which participants justified as being due to the developments it would bring. Having looked at the strategy from a municipal employee's perspective, the strategy will be an advantage for the development and growth of the economy, together with an improvement in adequate service delivery, as currently it is the main concern.

The concept of densification strategy has been used as a form of policy to address land development through sustainable development to efficiently use the existing natural resources (Jehling et al., 2020). The strategy involves utilizing existing infrastructures to provide services as widely as possible. This approach can promote infill and brownfield developments of dilapidated building structures in town and sites that have been empty and unused for years. Densification strategy can lead to the formulation of a densification strategy policy that better guides the municipality in future developments and land use management, based on the desired site sizes and various mixed uses they wish to develop. The municipality has the opportunity to develop and ensure access to all services in a properly planned area. Additionally, the strategy prioritizes forward planning and proactive measures over reactive planning.

7.5 Hypothesis testing

The two hypothesis statements, outlined in chapter one, were analyzed and tested using the literature review and variables from the study. Two sets of hypotheses: a null hypothesis and an alternative hypothesis.

Alternate Hypothesis

There is a substantial nexus between land invasion, emerging informal settlements, and spatial planning strategies.

Null Hypothesis

There is no substantial nexus between land invasion, emerging informal settlement, and spatial planning strategies.

Having looked at the literature reviewed, and the data collected by the researcher, it was concluded, looking at the variables and the concepts used, that Hypothesis 1 is an Alternative hypothesis, and the research has shown that there is a relationship between the variables, which was also supported by the use of a regression analysis in Chapter 6. Meanwhile, hypothesis No. 2 is a null hypothesis as it suggests that there is no relationship between land invasion and emerging informal settlement.

7.6 Conclusion

The chapter analysed different human settlements programs that could be potentially used to address the challenges of land invasion and informal settlements that Phumelela Local Municipality is faced with. The responses received from participants assisted the researcher in rating the best sustainable human settlement strategy based on preferences and responses. The next chapter will be of recommendations, the summary of the whole study and conclusion.

CHAPTER EIGHT: SUMMARY OF FINDINGS, RECOMMENDATION AND CONCLUSION

8.1 Introductions

This chapter will give a conclusion of the whole study conducted and the summary of findings as to what the researcher discovered in literature review and the data collected in the study area. For the study to be conducted the researcher identified and define the problem as stated 'Land invasions in Vrede Town are on the increase leading to the emerging of informal settlement(s), spatial planning strategies are needed to provide a solution to the challenge. This research therefore seeks to propose a spatial planning strategy to address land invasions and halt emerging informal settlements using Vrede town as a case study. Land invasions within Vrede town have not only brought the challenge of informal settlements but also the issue of safety and health issues to residents.' Having defined the problem of the study area the following objectives were identified to assist the researcher to unpack and review literature related to the problem faced by Vrede Town in Phumelela local municipality. The objectives identified below were reviewed using literature and data collected from participants.

Objectives

(a)To characterise land invasion and emerging informal settlement

(b)To highlight the drivers of land invasion and emerging informal settlements

(c)To propose a sustainable human settlement strategy that can address land invasion and emerging informal settlements in Vrede town, and other small towns experiencing similar challenges in South Africa

To better investigate the problem, a research question was formulated, providing guidance on strategies that the researcher and the municipality could explore to curb land invasion and emerging informal settlement challenges. The main research question is 'How can spatial planning strategies address land invasion and emerging informal settlements in Vrede town?'. Formulating a research question was important as it helped identify aspects to explore and formulate questions to ask during data collection. The study explored various theories and how they could inform the research and bring upon ways to address the issue at hand, the theories which were used are Henri Lefebvre's theory of the production of space, the theory of Hirschman's Exit, Voice and Loyalty together with the garden city movement theory that Ebenezer Howard established in the publications Garden cities of To-morrow. The application of the three theories' content enabled the researcher to review, analyze, and compare the literature with the respondents' envisioned developments in the area.

The researcher reviewed the policy context, encompassing international, national, provincial, regional, and local policies, to better understand how other cities, towns, and municipalities have adequately adhered to these policies for development. A few of those legislations from a national perspective included the Constitution of the Republic of South Africa, especially chapter 2 of the Bill of Rights, followed by the SPLUMA, a land use management Act that came into effect in July 2015. SPLUMA replaced a few policies that were used, such as the Development Facilitation Act and the Town Planning Scheme, and ensured that all municipalities adhere to its principles in managing land development and disposal of land, together with the processing of land development applications within a municipality.

The study took into consideration the vision and mission of the municipal SDF and IDP in relation to its growth and future plans, where it was mentioned that one of the strategies the municipality would like to invest in would be Densification of the area. The strategy is to eliminate the growth of development in the outskirts of town and the poor generation of income, as well as employment opportunities for all. The study's legislation reviews together with the theories identified and unpacked assisted in informing the suggested human settlements programs as reviewing which one would be implemented in Vrede as a solution to the current challenge of land invasion and the ever-emerging informal settlement. After the data collection process was completed and data was analysed supported by the literature review it was discovered that for the challenge at hand there is one strategy amongst all that when implemented it will curb several issues compared to others.

8.2 Description of the study area

The study happened in Mavakgeng informal settlement, which is located between Vrede town and the township under Phumelela Local municipality in Vrede town, Free State. The town is located between 3 provinces, and it is interconnected to all three, namely Mpumalanga, KZN, and Gauteng, with the municipality having a population of over 52,000 people. The number of populations derived from StatsSA only included those found to be residents at the time of census count and not those residing in other areas due to work. The area is furnished with agricultural and industrial sectors which contribute more to the economic sector and growth of the municipality. The main concerns that the researcher looked at were the formation and growth of informal settlements as the agricultural and industrial sectors grew together with continuous adequate basic service delivery for all. As people have migrated to the town the population has been growing, although some are residing temporarily there are residents who haven't benefited in the BNG programme when the municipality allocates sites. There were challenges that respondents raised due to where the area of concern is located and the nature

of the environment, which, according to the Geotech studies conducted, has been ruled waterlogged and not a human habitat.

8.3 Research methodological concerns

The section gave details on how the research methods, tools or instruments were used in terms of their specific purpose and how they assisted in achieving the research's objectives. The study had a research paradigm selected which was the **pragmatic** paradigm which when interpreted the paradigm is based on the reality that people in social environment can be understood better by interacting with them as people have different viewpoints and several events can occur at once depending on time and place (Stephen et al., 2018). The research design chosen for the study was a case study design which was better understood by the utilization of an observational research design.

To better understand the study two research approaches were applied and explored, the two approaches used were qualitative and quantitative approach. The quantitative research approach is focused of measuring the quantity of data (Kothari, 2004), meanwhile qualitative research approach aims of procedures of understanding, describing and interpreting data reviewed and collected (Declan 2001). The application of the two research approaches, Qualitative and quantitative, resulted in a mixed research method, which was applied for this study to be carried out. The sampling procedures was used, and the sampling method is purposive that was important for the study to select participants based on the skills, reliability equally purposefully. Leadership and positions. The purposive sampling method was a good approach; however, challenges arose during data collection, including employees' unfamiliarity with other departmental strategies and site owners in informal settlements who reside outside the settlement but use the housing structure to access municipal housing. A random sampling method was also utilised to ensure that a fair chance is given to all residents to participate in the questionnaire and interview to get their view of the impact of the informal settlement and service delivery.

To describe the study, a sample size of 369 households was used, which constituted 7.6% of the initial population. Two types of data informed the study fully, which are the qualitative and quantitative data as methods of gathering data (Hossein 2015). The data was extracted from sources such as books, university databases, municipal documents such as SDF, IDP, and other Governmental policies. The data sources were internal and external, where some hiccups are that internally (municipality), if you do not have insight, not all challenges are shared with an external person, and that may cause errors in the data collected.

There were two data collections use being primary and secondary data collection methods. Primary data were collected through questionnaires, where participants were asked to fill in

the answers. Key informant interviews involved one-on-one discussions between the researcher and participants to address their questions. The observation method was employed, with the researcher remaining non-participant to ensure that behavior and social interactions were not altered for the purpose of data collection. Furthermore, mapping tools were used to create a presentation of the study area, including its land uses, accompanied by photographs to illustrate the findings on the ground. Secondary data were gathered from government documents, international policies, and Google Scholar. Literature was reviewed from different levels: international, national, provincial, regional, and local.

Various study variables were identified based on the objectives formulated for the study as stipulated in Chapter 4 of the study. Data collected was analysed two analyses being qualitative dada analysis that used descriptive statistics to describe the relationship between variables in a sample of a population (Vikas 2018). Quantitative data analysis was presented using SPSS and Excel, and the findings were later presented in the form of tables, charts, photos, maps, etc. As the chapter concluded, ethical considerations were unpacked, informed consents were considered to ensure the anonymity of participants and the protection of the identities of participants in the study.

8.4 Summary of research findings

The section provided a summary of findings in relation to the objectives outlined in chapter one, which was analyzed through a literature review and the collected data. Each objective was analysed thoroughly, and data was presented in the form of either graph, photographs, maps and pie charts

8.4.1 Objective 1: Characterisation of land invasion and emerging informal settlement in Vrede town.

The literature review has shown that there are numerous informal settlements emerging in South African towns and urban areas, in search for adequate access to efficient resources and basic service delivery (Magidi and Ahmed 2022). The objective was to unpack the characteristics of the two concepts of land invasion and informal settlements from other scholars. The data collected from participants were presented in photographs, graphs, and pie charts in various identified characteristics of the two concepts. There was a section that discussed the existing land use hierarchy in Vrede and its influence on the growth of land invasion, together with the emerging informal settlement of Mavakgeng.

The description of the connectivity to the surrounding areas as the study area is located between KZN, Mpumalanga and Gauteng provinces, it was brought to the study as to look into the transportation opportunities. The theory of Henri Lefebvre's Theory of space production which influences the sustainable use of land and conservation of land as a

resource. Characteristic of land invasion and informal settlement were identified from the existing settlement supported by literature review. Such characteristics included those of lack of service delivery electricity, illegal dumping sites, lack of adequate housing structures, spatial distribution of land and the environmental management concerns of the settlement. The characteristics were each unpacked using literature from various sources and the data collected which were presented in forms of photographs, pie charts, maps, and graphs. As the chapter concluded a regression analysis was used to determine the relationship between land invasion and formation of informal settlement in Vrede town.

8.4.2 Objective 2: The drivers of land invasion in an emerging informal settlement

The objective's main concern was to outline the drivers of land invasion and informal settlements, drawing on both the literature and on-site data collection. The objective was focused on using theories identified in chapter two such as Henri Lefebvre's theory of the production of space and the theory of Albert. Hirschman's Exit, Voice and Loyalty. The main purpose of Henri Lefebvre's theory was to assist in understating the need to plan for development on land as a resource, while Hirschman's theory offers the residents equal opportunities to engage in developments and how local authorities use land. The section continued to define land invasion as the illegal occupation and use of land, meanwhile, informal settlement was defined as the formation of unplanned housing structures by households, unplanned and illegal constructions. Drivers of the two challenges were identified, and the literature, together with the data collected, were assessed to understand each aspect better.

To create order in the study, the drivers were arranged using the STEP concepts, where we discussed factors in Socio-economy, technological, environmental, and political. All factors had their challenges, which were considered carefully. Refer to chapter 6 for the content of the discussions. The drivers from different factors assisted the researcher in understanding the reasons behind Vrede having high number of land grab and informal settlement as residents are in search for better access to services, access to provision of housing structures, and most importantly based on the data collected it was due to employment opportunities especially in the agricultural and industrial sectors.

The chapter outlined several stakeholders who can contribute to reshaping Vrede town and addressing the municipality's challenges, including municipal employees from various departments, SAPS, councillors, community policy forums, town planners, and investors. The collected data also helped explain why people are invading land and forming an informal settlement called Mavakgeng; some see it as a search for a better life, while others have no choice. There are challenges that the two concepts are accompanied with, and they were

each discussed in the chapter some being that they hinder growth of an area economically and socially. Pointers of informal settlements were recognised and the opportunities of the two concepts as identified as the chapter concluded.

8.4.3 Objective 3: Sustainable human settlement strategies to curb land invasion and emerging informal settlements in Vrede town

The third objective identified different sustainable settlement strategy to curb land invasion and informal settlement in the study area Vrede, their opportunities, challenges, and based on the data collected assist in assessing a workable strategy for the municipality based on it nature. Four workable programs were identified and each unpacked to gather information of how it works and identify if it would work for Phumelela Local municipality. Strategy No. 1 was informal settlement upgrading, which involves formalizing the existing informal settlements where people currently reside. The challenge with the first strategy is that the Department of Human Settlement in FS disapproved it, as the geotechnical studies deemed the area waterlogged. The strategy would have saved the department and the municipality funds to invest in other projects, however in the future it would have negative impacts such as health concerns, flooding and connectivity challenges for emergency vehicles and personnel to assist the residents. Data collected from participants on how they feel about the strategy was presented in a form of pie chart in chapter 7.

The second strategy was breaking new ground where the institution requested assistance from the department to provide adequate housing structures to residents, a strategy that has been utilized in Phumelela and presented a challenge of not providing enough housing structures to address the issue of housing backlog. The strategy has positive reviews as it offers equal opportunities for all to qualify for a site with a housing structure, although it does not necessarily address the challenge of informal settlement. A graph has been attached to summarise how the participants feel about the implementation of the strategy.

The third strategy is the implementation of a densification strategy and encouraging a compact town with mixed use development. The main aim of the strategy is to maximise the provided space with more developments that saves space and funding for sponsoring provision of basic services in various areas. According to the collected data, 78.8% of participants strongly agree that the strategy will be effective, with 1.2% disagreeing with its implementation. The strategy has formed part of the Spatial Development Framework of Phumelela meaning the institution has considered the implementation of it to better manage land use and development. It has its opportunities and challenges, with some concerns related to the high land value, the town's potential loss of character, and the resulting dispersion of societies. Meanwhile, there could be potential for employment opportunities as developments happen, provision of more

housing structures with less occupation of land while maximising the use of public transportation and easy access to services.

The fourth strategy identified is the new Township establishment, which has been used to date; however, communities are spreading widely, and connection to the main town is lost. Like the other strategies the TE has its merits and demerits such as the municipality will have a fully formal established area that has legal proof of ownership for residents. There would be a secure security of tenure, and it should be noted that TE ensures that there are equal opportunities to acquire land for all. Although, the processes often take longer which result in people informally occupying land, thus setting the planning process in back motion. Having looked at the literature and data collected the best strategy for the institution would be a densification strategy though it will need more Insight to it in a form of policy. Densification speaks to all theories identifies to inform this study.

8.5 Areas for future research

This section will focus of identifying future areas that are possible for research and may be explored within the municipality and other surrounding areas.

8.5.1 Densification strategy policy

The study through literature review and the data collected has suggested the use of a densification strategy as a human settlement programme that can be implemented to curb the challenges of land invasion and emerging informal settlement. This strategy has been envisioned by the municipality as it is mentioned of the municipal Spatial Development Framework to address issues with sites allocation and encouraging economic development. The municipality wishes to make use of the strategy, however for the implementation to be successful there should be a council approved policy that the municipality will use for guidance with a vision and a mission together with short, middle and long-term goals of implementation. Future researchers may dwell in the formulation of a densification policy and how should it be formulated before implementation. The researcher should invest in investigating in depth how other areas have made use of the policy, if it is working or if there is a need for those areas or municipalities to review and make other workable suggestions.

8.5.2 Transportation/ connectivity

The municipality, specifically Vrede, has shown potential for growth in the future, particularly with the development and expansion of its two main economic sectors into other areas. The municipality does not have a workable transportation strategy which has shown negative impact of the economic growth and delivery. Transportation of the goods produced is of importance and should be planned for as there are heavy transports that connect through the municipality, yet the economy has not grown through the transportation sectors. In the future

it would be wise to have a researcher look into developments that can potentially encourage drivers to park overnight and rest where there are markets, food, protection which as a result will create employment for many. The main idea would be to unpack how the connectivity to these other three provinces may gain Vrede and its residents.

8.5.3 Role of agricultural sector in future town planning

Cultivation, planting, and livestock population have developed over the years, which as a result have placed pressure on the municipality to dispose of land for industrial and agricultural purposes. There is a need to plan for future agricultural growth as the sector has positive and negative impacts on future planning, especially on land use management and arrangements. There should be an integration and proper planning as to what triggers developments from the agricultural sector such as residential settlements as employment opportunities rise there is a need for accommodation. Sustainable development strategies should be explored in agriculture, as they contribute to both the economic growth of the municipality and the County's Gross Domestic Product. According to Cassatella, (2022) the integration of agricultural spaces and town planning contributes into environmental management and sustainable use of green spaces together with the establishment of greening infrastructure and transportation. The partnership will ensure that there is a sustainable created social cohesion that will result in safe communities and easy engagements public participation through the use Public Private Partnerships.

8.6 Recommendations

The human settlement programmes that the researcher suggested and explored each with literature review and data collected as to which strategy the residents would want to see implemented in quest for eliminating the issue at hand included that of breaking new ground. The breaking new ground human settlement strategy is the approach that various municipalities have been adopting, with assistance provided by the provincial human settlement department. This strategy has been effective in Phumelela, despite its limitations, including the inability to provide adequate housing structures and sites, which addresses the challenges of land invasion and informal settlements formation in Vrede. The programme has the potential to improve basic service delivery, as seen in the newly approved settlements in Thembalihle. However, the strategy should address the current issues and pave the way for future planning. It is therefore the researcher's perspective to recommend the implementation of a densification strategy above all other strategies suggested.

Based on the literature reviewed, data collected, and the experience gathered in the timeframe as a municipal employee the researcher recommends that the municipality explore the deification strategy as a human settlement program for future development. The strategy has

various areas that need to be explored and thoroughly unpacked to better understand its positive and negative impacts. It would be wise for the municipality to explore the strategy with guidance of a policy that has been formulated based on the vision and mission of the municipality against other legislations and the goals set for and by the institution.

There will be a need to review policies from other municipalities to better understand how they implemented the strategy, if it has shown positive impact and if the challenge that particular institution had was addressed. The formulation of the policy will need integration of several stakeholders to have a properly planned outcome, and be effective, with good governance of land use. Main stakeholders are necessary to ensure the policy operates smoothly, including COGTA, which supports local government in policy context planning and land use management.

8.7 Conclusion

The study highlighted the importance of understanding the drivers of land invasion and the formation of informal settlements in towns, which were previously viewed as challenges faced only by developing cities. The study aimed to explore various human settlement programs that are spatially strategies in creating adequate, safe and healthy settlements. The increasing population in Vrede town housing backlog and demand is inevitable; therefore, it is critical to adequately plan and address urban green spaces in future urban densification projects. Reflecting on the discussion above, a few key lessons can be learnt by planners for future population grown in towns. Henri Lefebvre's theory of the production of space and the theory of Hirschman's Exit, Voice and Loyalty together with Ebenezer Howard's Garden city movement theory purposively speaks to the sustainable utilization of land as a natural resource. Hirschman's Exit, Voice and Loyalty theory stresses the importance of giving residents opportunities to participate in planning which as a result can ensure adequate planning and reduce challenge of land invasion and informal settlements formation as the public is aware of the processes followed in establishing townships.

The study does not limit spatial strategies to the four suggested, however having looked at the goals set on the municipal SDF it would be wise for the institution to explore the densification strategy further and consider the formulation of a policy that will better guide in implementation. Collaboration among different stakeholders will facilitate the implementation of a strategy that promotes PPP with the agricultural and industrial sectors. These sectors are dominant, with a high population of workers residing in informal settlements. Different stakeholders will ease the implementation of the strategy, which will promote PPP with the agricultural and industrial sectors, as they are the dominating sectors with a high population of workers such as Mavakgeng. Proper establishment and planning will save the municipality funds that are used,

especially for the weekly elimination of illegal dumping sites that always re-emerge. It can be concluded that the densification strategy discussed and unpacked in the study is a more suitable approach to addressing the challenges faced by Vrede town and Phumelela local municipality. Therefore, stakeholders must take a position on the implementation and management of land use.

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APPENDIX 1: QUESTIONNAIRES FOR RESIDENTS

UNIVERSITY OF VENDA



Faculty of science, engineering and agriculture

Department of urban and regional planning

The questionnaire is directed to respondents residing in Vrede town and township (Mayakgeng informal settlement)

I am undertaking a research study titled, '**Spatial Planning Strategies To Curb Land Invasion And Emerging Informal Settlements In Developing Towns: Case Study Of Vrede Town, Free State Province Of South Africa**'. This study is being conducted because it is a requirement to complete master's in urban and Regional Planning. I humbly appeal your objective assistance by completing this questionnaire. Your responses will be solely used for academic purposes only and information collected will be treated with outmost confidentiality. Thank you.

Researcher: Makananise VP

Student no: 16000601

Supervisor: Dr Ingwani

ADMINISTRATIVE INFORMATION

Date: .....

Questionnaire no:.....

Questionnaires

Date.....

Place of interview.....

Question no.....

Section A: Respondents Profile

Instructions: please use a tick or a cross

1. Gender

Female	Male

2. Age

15-25	26-35	36-45	46-55	>56

3. Employment status

Employed	Unemployed	Self-employed

4. Place of employment

Government	Retail	Farms	Industrial	Others

5. Are you a local resident or you migrated into Vrede?

Local resident	Migrated

6. If you migrated to Vrede what was the main reason for the relocation?

Employment	Other

7. If you are a local resident, how did you end up residing in Mavakgeng?

.....

8. Do you wish would be relocated to another place? If Not why?

Yes	No

.....

Section B: To characterise land invasion and emerging informal settlement

1. Is there any access to provision of electricity in Mavakgeng?

Yes	No

2. Does the municipality collect waste?

Yes	No

3. Rate the level of satisfaction with waste collection by the municipality.

1. Satisfactory	2. Good	3. intermediate	4. Poor	5. Very Poor

4. Is the environment you reside in habitat for human settlement? If not, why?

Yes	No

.....

5. Rate the level of satisfaction in relation to the environment,

1. Satisfactory	2. Good	3. intermediate	4. Poor	5. Very Poor

6. What kind of a housing structure is your household?

.....

7. Rate the level of satisfaction in your housing structure.

1. Satisfactory	2. Good	3. intermediate	4. Poor	5. Very Poor

8. How did you acquire this piece of land and buildings?

Land acquisition and allocation	yes	No
Did you allocate site to yourself and build?		
Did the municipality allocate you land and housing?		
Did the municipality allocate you land and you built?		
Did you buy site and build on your own?		

Section C: To highlight the drivers of land invasion and emerging informal settlements

Please USE the following scale to indicate most appropriate response to answer the following question

1=strongly disagree	2=Agree	3=Neutral	4=Agree	5=Strongly agree

9. To what extend do you strongly disagree or strongly agree to that the mentioned below are the drivers of land invasion?

Highlight of the drivers of land invasion						
Socioeconomic factors	Rapid urbanization and migration	1	2	3	4	5
	Past politics	1	2	3	4	5
Governance and land management issues	Poor governance	1	2	3	4	5
	Lack of proper planning	1	2	3	4	5

10. To what extend do you strongly disagree or strongly agree to that the mentioned below are the drivers of informal settlement?

Highlight of the drivers of land invasion						
Socioeconomic factors	Poverty and unemployment	1	2	3	4	5
	Lack of access to affordable housing	1	2	3	4	5
Governance and land management issues	Political affiliation and gains	1	2	3	4	5

Section D: To propose a sustainable human settlement strategy that can address land invasion and emerging informal settlements in Vrede town, and other small towns experiencing similar challenges in South Africa

11. To what extend do you strongly disagree or strongly agree to that the mentioned below are the drivers of informal settlement?

Sustainable human settlement strategy					
Relocation of households to another area	1	2	3	4	5
Implementation of densification strategy (mixed use development)	1	2	3	4	5
Dep. Humana settlement BNG provision	1	2	3	4	5
New township establishment and sites be sold	1	2	3	4	5
Formalization of the informal settlement	1	2	3	4	5

12. What would you like the municipality to do?

.....

13. Any other challenge you have in the neighbourhood?

.....

APPENDIX 2: QUESTIONNAIRES FOR MUNICIPAL OFFICIALS

UNIVERSITY OF VENDA



Faculty of science, engineering and agriculture

Department of urban and regional planning

The questionnaire is directed to respondents residing in Vrede town and township (Mavakgeng informal settlement)

I am undertaking a research study titled, '**Spatial Planning Strategies to Curb Land Invasion and Emerging Informal Settlements In Developing Towns: Case Study Of Vrede Town, Free State Province Of South Africa**'. This study is being conducted because it is a requirement to complete master's in urban and Regional Planning. I humbly appeal your objective assistance by completing this questionnaire. Your responses will be solely used for academic purposes only and information collected will be treated with outmost confidentiality. Thank you.

Researcher: Makananise VP
Student no: 16000601
Supervisor: Dr Ingwani

ADMINISTRATIVE INFORMATION

Date: .....

Questionnaire no.:.....

Questionnaires

Date.....

Place of interview.....

Question no.....

Section A: Respondents' profile

Instructions: please use a tick or a cross

1. Which department in the municipality are you in?

.....

2. What is the level of service provision ability in Phumelela Local municipality?

Very good	Good	Intermediate	Poor	Very poor

3. Which basic services does the municipality provide in Mavakgeng informal settlement?

Services	Tick or Cross
Clean water and sanitation	
Solid waste removal	
Electricity provision	
Roads and storm water maintenance	

4. If not, what are the issues the municipality encounter when providing services?

.....

5. Are there any strategies in place to curb the informal settlement?

Yes	No	If no Reason?

6. Is Human settlement aware of the issues the municipality has and what were their take?

.....

.....

APPENDIX 3: ETHICAL APPROVAL CERTIFICATE

ETHICS APPROVAL CERTIFICATE

ETHICS APPROVAL CERTIFICATE

FACULTY OF SCIENCE, ENGINEERING AND AGRICULTURE
RESEARCH ETHICS COMMITTEE

NAME OF RESEARCHER/INVESTIGATOR: MAKANANISE VP

STAFF/STUDENT NO: 16000601

PROJECT TITLE: Spatial Planning Strategies To Curb Land Invasion And Emerging Informal Settlements In Small Towns: Case Study Of Vrede Town, Free State Province Of South Africa.

ETHICAL CLEARENCE NO: FSEA/24/URP/41

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr Ingwani E	University of Venda, Department of Urban and Regional planning.	Supervisor
Ms Nyamwanza SA	University of Venda, Department of Urban and Regional planning.	Co-Supervisor

Type: Student research

Risk: Minimal risk to humans, animals, or environment (Category 1)

Approval Period: November 2024 – December 2026

The Faculty Research Ethics Committee (FREC) of the Faculty of Science, Engineering and Agriculture hereby approves your project as indicated above.

General Conditions
While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following.

- The project leader (principal investigator) must report in the prescribed format to the REC:
  - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project

University of Venda

PRIVATE BAG X5050, THOHOYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA
TELEPHONE (015) 962 8394/9213. FAX (015) 962 8000
"A quality driven financially sustainable, Comprehensive University"

ETHICS APPROVAL CERTIFICATE

- Within 48hrs in case of any adverse event (or any matter that interrupts sound ethical principles) during the project.
- Annually, research projects may be randomly selected for auditing.

• The approval applies strictly to the protocol as stipulated in the application form. Should a change to the protocol be deemed necessary during the project, the project leader must apply for approval of these changes before their implementation. Should there be a deviation from the study protocol, without the necessary approval for the change, the ethics approval is automatically forfeited.
• The date of approval indicates the earliest date that the project may begin. Should the project have to continue after the expiry date; a new application must be made, and a new approval received before or on the expiry date.
• In the interest of ethical responsibility, the FREC retains the right to:
  - Request access to any information or data at any time during the course or after completion of the project,
  - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
  - withdraw or postpone approval if:
  - Any unethical principles or practices of the project are revealed or suspected.
  - It becomes apparent that relevant information was withheld from the REC or that information has been false or misrepresented.
  - The required annual report and reporting of adverse events was not done timely and accurately,
  - New institutional rules, national legislation or international conventions deem it necessary

---

ISSUED BY:
FACULTY OF SCIENCE, ENGINEERING AND AGRICULTURE RESEARCH ETHICS COMMITTEE

Date considered: November 2024



Chairperson: Prof. L.C Murulana

University of Venda

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APPENDIX 4: PROJECT REGISTRATION APPROVAL

University of Venda

Faculty of Science, Engineering and Agriculture

DEPARTMENT: __URBAN AND REGIONAL PLANNING_____

To : MAKANANISE VHUTHU PERTUNIA

From : Prof J Chakwizira
FSEA Higher Degree Committee staff member

Date : 14/08/2024

Approval of a dissertation/thesis proposal for ethics submission

Project title: SPATIAL PLANNING STRATEGIES TO CURB LAND INVASION AND EMERGING INFORMAL SETTLEMENTS IN SMALL TOWNS: CASE STUDY OF VREDE TOWN, FREE STATE PROVINCE OF SOUTH AFRICA

Name	Student/staff nr	Role within project				
		Project leader	student	external collaborator	supervisor	co-supervisor
MAKANANISE VHUTHU PERTUNIA	16000601	x			Dr. E. Ingwani	Ms S A Nyamwanza

Project registration number: FSEA/24/URP/41

_____Prof J Chakwizira_____
Prof/Dr
FSEA Higher Degrees Committee member in the Department

_____(for HoD)__Dr. F Moffat_____
Prof/Dr
HOD

APPENDIX 5: PROOF OF REGISTRATION 2023 & 2024

University of Venda
Creating Future Leaders

PROOF OF REGISTRATION
To Whom It May Concern

09-Oct-2023

It is hereby confirmed that the under mentioned person is a registered student at University of Venda Production.

Student Number: 16000601
Student ID Number: 9802280424086
Name: VHUTHU PERTUNIA MAKANANISE
Registered for Period: 26-Jan-2023 - 08-Dec-2023
Qualification: ESMURP MASTER OF URBAN AND REGIONAL PLANNING

Subject	Description	Qual.	Class Group	Exam Year	Exam Month	Cancel	Offering Type	Amount
URP6390	H3 MASTERS STUDENTS RESEARCH AND DISSERTATION 6390	ESMURP	A	2023	11	N	05	35630.00
							Subtotal:	35630.00
							Total:	35630.00

Outstanding Balance: -99209.90

ADV. E.N. LAMBANI
UNIVERSITY REGISTRAR

University of Venda

PROOF OF REGISTRATION

To Whom It May Concern

14-Aug-2024

It is hereby confirmed that the under mentioned person is a registered student at University of Venda PRODI41.

Student Number: 16000601
Student ID Number: 9802260424086
Name: VHUTHU PERTUNIA MAKANANISE
Registered for Period: 09-Jan-2024 - 11-Dec-2024
Study Level: 2ND YEAR
Qualification: ESMURP MASTER OF URBAN AND REGIONAL PLANNING
Offering Type : MASTERS (SUCCESIVE) FULL TIME

Subject	Description	Qual.	Class Group	Exam Year	Exam Month	Registration Date	Cancel Date	Stats Credits		Amount
	H3 MASTERS STUDENTS									
URP6990	RESEARCH AND DISSERTATION 6990	ESMURP	A	2024	11	19-Apr-2024		0.333		18780.00
									Subtotal:	18780.00
							Credit Total:	0.333	Total:	18780.00

Outstanding Balance: -76939.90

NB. The costs reflected in this document apply only to the current academic year's registration and do not constitute a financial statement of account. Registration fees, SRC levies, and residence costs are not included here but will appear on the financial statement of account.

DR. J.J BALOYI
UNIVERSITY REGISTRAR

University of Venda
Creating Future Leaders

UNIVERSITY OF VENDA
14-Aug-2024

University Road, Thohoyandou, Limpopo, Private Bag x5050, Thohoyandou, 0950, Limpopo, South Africa
Tel: +27 15 962 8836, Fax: +27 962 4758, Email: info@univen.ac.za Web: www.univen.ac.za

APPENDIX 6: MUNICIPAL REQUEST TO CONDUCT STUDY

FACULTY OF SCIENCE, ENGINEERING AND AGRICULTURE
Department of Urban and Regional Planning

To: The Municipal Manager
Phumelela Local Municipality
Crn: Kuhn & Prinsloo Street
Private Bag X5
VREDE, 9835

07 May 2025

Ref: Request for permission to conduct a Master's research in Phumelela Local Municipality

With reference to the above-mentioned subject, I humbly request that you grant permission to Ms Vhuthu Pertunia Makananise (Student Number 160006010) from the Department of Urban and Regional Planning in the Faculty of Science, Engineering and Agriculture at the University of Venda to undertake a Masters In Urban and Regional Planning research in your municipality. The research is titled 'Spatial Planning Strategies to Curb Land Invasion and Emerging Informal Settlements in Developing Towns: Case Study of Vrede Town, Free State Province of South Africa'.

Your assistance will be highly appreciated.

Yours faithfully

Dr E Ingwani

University of Venda

Private Bag X5050, Thohoyandou, 0950. Limpopo Province. South Africa
Telephone (015 962 8635 . Fax (015) 962 8597 Cell: 073 519 1522
Email: emaculate.ingwani@univen.ac.za
Website: www.univen.ac.za

APPENDIX 7: MUNICIPAL REQUEST TO CONDUCT STUDY APPROVAL

Crn: Kuhn & Prinsloo Street
VREDE, 9835
Tel: 058 913 8300

PHUMELELA
LOCAL MUNICIPALITY

Private Bag x 5
VREDE, 9835
Fax: 058 913 2317

OFFICE OF THE MUNICIPAL MANAGER

08 May 2025

Enquiries: NL Maimela

Dr E Ingwani
Private Bag X5050
Thohoyandou,
0950.

Attention to: **Dr E Ingwani**
: emaculate.ingwani@univen.ac.za

Ref: Approval for permission to conduct research in Phumelela local municipality

This serves to confirm the receipt of your request dated 07 May 2025 to conduct a study at Phumelela Local municipality. Kindly take note that the request has been approved for Ms Vhuthu Pertunia Makananise to conduct her study within our institution.

We trust you find the above in order.

Yours Sincerely

Mrs. G.P.N Mhlongo-Ntshangase
Municipal Manager
Date: 08/05/2025

APPENDIX 8: PROOF READING CERTIFICATE

Language Editing Report

Date: 08 May 2025

To whom it may concern.

This letter serves to confirm that I, B N Rumutsa proofread and edited a dissertation titled: **"SPATIAL PLANNING STRATEGIES TO CURB LAND INVASION AND EMERGING INFORMAL SETTLEMENTS IN DEVELOPING TOWNS: CASE STUDY OF VREDE TOWN, FREE STATE PROVINCE OF SOUTH AFRICA."**, by **MAKANANISE VHUTHU PERTUNIA,** (Student Number, **16000601**), to be submitted to the Department of Urban and Regional Planning, Faculty Of Science, Engineering And Agriculture, University of Venda.

I carefully read through the dissertation focusing on language and grammatical construction errors that needed corrections to the best of my ability. Neither the dissertation content nor the author`s intentions were altered in any way during the editing process.

Yours sincerely



B. N Rumutsa
(Language editor)

Email: brendarumucha@yahoo.com

APPENDIX 9: TURNITIN REPORT

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by Vhuthu Pertunia Makananise

Submission date: 08-May-2025 03:09PM (UTC+0200)
Submission ID: 2670140299
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Word count: 42479
Character count: 229841

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