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In the Era of Global Shocks: A Needs Inquiry on State Provided Housing During and After the Covid-19 Pandemic

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IN THE ERA OF GLOBAL SHOCKS: A NEEDS INQUIRY ON STATE PROVIDED HOUSING DURING AND AFTER THE COVID-19 PANDEMIC

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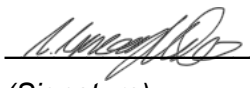
A Research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg in partial fulfilment of the requirements for Master of Urban Studies in the field of Urban Management.

Johannesburg, 2023

DECLARATION

I, Lebogang Lucia Mogale, declare that this research report is my own unaided work. It is being submitted for the degree of Master of Urban Studies in the field of Urban Management to the University of Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.



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ABSTRACT

South Africa, like many countries of the South is confronted by a housing crisis, especially in Metropolitan areas. This is because Metropolitan areas are experiencing rapid population growth and, in the process, creating a demand for low-income housing. The state-provided low-income housing, implemented as a remedial intervention, has faced spatial, procedural, and administrative scrutiny, among others. Furthermore, the Covid-19 pandemic has brought housing and human settlements into the spotlight, raising both opportunities and challenges with the resilience of state-provided low-income housing. The study has used the onset of the Covid-19 pandemic to emphasize and make apparent the various types of housing and settlement needs that should be prioritised to potentially mitigate the impact of future global shocks such as pandemics. Global shocks trigger resilience thinking that is linked to spatial attributes that can potentially reduce and mitigate the impact of disasters and risks. This indicates an opportunity of supporting 'resilience thinking' with existing social realities. The study speaks to this gap by diving deep into theoretical discourses of housing needs and practical needs as determined by participants perceptions. This was done by adopting a case study design that follows Wilhelm Dilthey's philosophy of hermeneutics. The Case Study context used was Palm Ridge extension 10 where Breaking New Ground Housing and Military Veteran houses were allocated in November 2019. Interviews were conducted with both municipal officials and beneficiaries of subsidised housing to inquire in-depth about their considerations of housing needs and how they can be met. The findings of the study indicate that there is a correlation between what is perceived as housing needs during the pandemic and some principles of resilience thinking. It identifies two types of housing needs necessary for mitigation, coping, and recovery from the Covid-19 pandemic. The needs identified are technical housing needs which are concerned with the physical structure of a house and settlement, and soft dimensional housing needs which are more symbolic of the relationship residents have with their houses and the overall neighbourhood. Moreover, the study emphasises that the translation of housing needs from theory to practice is to a certain degree challenged by institutional deficiencies. Although state-provided housing is challenged, it has proven a resilient measure in the era of the pandemic when housing insecurities were on the rise. Neighbourhoods like Palm Ridge can potentially adopt evolutionary and transformative resilience due to their flexible nature to cater to changing needs. Therefore, it is apparent that needs inquiry is a complex issue that can be leveraged to stimulate the adoption and development of bottom-up and collaborative responses to shock mitigation.

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CHAPTER 1. STUDY INCEPTION

Introduction

Urban studies is a field concerned with the development, planning, and management of geographical spaces. This is because these spaces face numerous challenges impacting the environment, societies, economy, and institutions. The recent Covid-19 pandemic stands out as one of the critical challenges across all sectors of urban areas.

The pandemic marked the first time the South African democratic government declared a National State of Disaster. It triggered unprecedented changes in government processes, reshaped people's way of life, and tested the government's disaster management capacity (Mvuyana, Mbambo, and Ntshangase, 2020). Human settlements became focal points for initiatives aimed at controlling and reducing the impact of Covid-19, and this took a toll on the urban poor and low-income groups. Additionally, the pandemic provided an opportunity for the government and research institutions to devise strategies addressing poverty and inequality.

In light of these circumstances, this research study delves into the importance of thoroughly understanding people's needs when designing long-term interventions, ensuring continuity and effective mitigation of future shocks. This introductory chapter provides an overview of the main components, including the study's background, research problem, aims and objectives, research questions, and its overall significance.

Background

South Africa is a country located on the southern edge of Africa. The country has a peculiar history of apartheid where racial segregationist laws have largely impacted spatial patterns. After the first democratic election in 1994, the government prioritised the commitment to redress and overcome apartheid consequences including poverty and inequalities (Adebayo & Adebayo, 2000). The standard housing initiative is through the provision of access to low-income housing in well-located areas that allow access to opportunities and an overall improved quality of life (Department of Human Settlements, 2009). This commitment takes prominence in housing policies where the key outcome is to develop sustainable human settlements and an improved quality of life (*ibid*).

An esteemed policy that spoke to democratic initiatives and introduced subsidised housing was the Reconstruction and Development Programme (RDP) (Mashwama, Thwala, and Aigbagbova, 2019). Subsidised housing for low-income groups that is provided by the state has received numerous criticisms. These are subject to their locality, integration into other housing programmes, quality of services, and structure size among others (*ibid*). These embody the significant challenges identified with subsidised housing which mostly affect the

urban poor. Examples are the case of crossroads informal settlements in Cape Town by Watson (2003), the case of Lufhereng housing mega-project by Charlton (2017), and the case of Kliptown RDP units among others.

Despite the realisation that low-income subsidised housing has faced considerable criticism since the early 2000s, there has been a notable progression in policy responses over time. The government's involvement in providing diverse housing options, often in collaboration with private partnerships, reflects this. Discourses that investigate issues of public policy responses in South Africa argue that the housing policies like many other socio-economic policies in the country do not make a significant contribution because they are poorly implemented (Marais and Matebetsi, 2013; Khoza, 2021). The underlying reasons for poor implementation are capital inadequacy, corruption, lack of participation, and weak local governance (Manomano, Tanga, and Tanyi, 2016; Ratshitanga, 2017; Marutlulle, 2021). The inability to effectively implement housing policies has a direct implication on people's housing needs, expectations, and experiences (Mashwama, *et al*., 2019).

In addition to the preceding challenges, there is an increasing demand for middle to low-income subsidised housing in South Africa, especially in metropolitan cities. These cities experience rapid population growth stemming from natural increase, migration, and urbanization (South African Cities Network, 2021). The housing demand is reflected by the proliferation of informal settlements, over-populated hostels, unregulated backyard rentals, hijacked buildings, and homelessness. Contemporarily, subsidised housing is considered a remedial policy approach seeking to relieve the housing burden, inadequacies, and inequalities for the urban poor and the very low-income groups. These are implemented through mega-housing projects which gained recognition in the year 2015 as part of the Breaking New Ground Policy of the Human Settlements (City of Ekurhuleni, 2021). Mega-housing projects are large-scale housing projects with mixed land uses and housing types (*ibid*).

Covid-19 as a global shock has further exacerbated the housing challenges, especially those discussed in popular housing discourses, and are relevant to subsidised housing. Global shocks are defined as sudden interruptions with economic haphazard effects, and they geographically affect more than one continent, these can be pandemics, wars, geomagnetic storms, and financial crises amongst others (OECD, 2011). These shocks create capital, resource, and capacity drawbacks in the already established urban priorities, policies, and plans. The notion of Global Shocks is dominant in the field of Economics and Finance, focusing primarily on the market, recession, commodity prices, currencies, and the overall economic recovery. This is just the tip of the iceberg. These problems are short-term and are

often self-correcting (Golding, 2020). Geographical spaces are the ones experiencing the long-term effects embodied by inequality, poverty, injustice in development, and negative externalities on the environment.

Problem Statement

In various literature, discussions surrounding housing provision predominantly characterise housing needs through factors such as size, density, diversity, materials, and access, which align with the principles of spatial resilience and sustainability (Mashwama, *et al*., 2019; Davoudi, 2012). Global shocks such as pandemics allow for an opportunity to expand resilience thinking to its softer dimensions (Davoudi, 2012; Harrison, Bobbins, Culwick, Humby, Mantia, Todes, and Weakly, 2014) such as stakeholders' voices and views. The dominant focus on urban spatial resilience in the pandemic era has led to a methodological gap where resilience thinking can be supported by a social inquiry to identify practical needs that can mitigate the impact of future pandemics. Inadequate inquiry and responses to housing needs have resulted in informal practices, wasteful expenditures, and challenges in managing new housing developments. To address this, this study will adopt qualitative approaches to gain insights on how to accommodate changes in housing needs, and how these can contribute to effective resilience interventions. Overall, this problem statement highlights that the study addresses the issue “perspectives” suggesting that the viewpoints and opinions of participants play an important role in bridging the methodological gap in resilience thinking. This is achieved by considering these viewpoints as the "soft" dimensions of resilience thinking, which, in turn, provide a comprehensive understanding of housing needs. In essence, participants' perceptions serve as a means to integrate the human and social aspects into resilience thinking, allowing for a deeper exploration of housing needs beyond traditional spatial considerations.

Aim and Objectives

This study aims to explore the relationship between housing needs and resilience theories as integral parts of housing interventions by referring to the Covid-19 Pandemic. In doing so, the study will:

- Review existing theories and frameworks on housing needs and resilience, and their significance to pandemics.
- Analyse changes in housing needs under the influence of Covid-19.
- Assess the realisation of housing needs through lived experiences and expertise from state-housing stakeholders.
- Identify key housing aspects needed to facilitate resilience against future shocks such as pandemics.

Main Research Question and Sub-Questions

How has the Covid-19 pandemic affected stakeholders' perceptions of housing needs, and what do these perceptions mean for existing housing interventions?

- What has changed in stakeholders' perceptions of housing needs during the Covid-19 pandemic as compared to their pre-pandemic perceptions?
- How have stakeholders catered to these revised perceptions of housing needs during this pandemic period and as it progresses?
- In what ways do these revised perceptions of housing needs and actions taken in response to them, facilitate resilience interventions against future shocks such as pandemics?

Significance of the Study

The pursuit of a more 'developmental state' emphasises the establishment of a state that drives development through structural transformation (National Planning Commission, 2011). A dominant ideology towards transformation is through the adoption of bottom-up approaches that promote public participation, decentralisation, and social consensus (Coetzee, 2012). For South Africa, a developmental state emphasises citizen engagement, collaboration, and coordination with the government spheres and different sectors in tackling local challenges (Harrison, Todes, and Watson, 2007; Oranje, 2007; Coetzee 2012).

Needs Inquiry is a complex issue that can be leveraged to stimulate the adoption and development of bottom-up and collaborative approaches in development. It is an issue that is central to approaches in service delivery, development, and social welfare among others. This means that more innovative, sustainable, and feasible measures for planning and management are determined by the 'needs' of citizens. This can only be achieved if the government and developers have a hand-in-glove relationship with the citizens (Coetzee, 2010). Therefore, complex issues such as needs inquiry are dependent on perceptions and experience, meaning that, in order to understand such situations, issues, or systems holistically, a variety of perspectives should be aggregated.

Methodology

The study's methodology plays a fundamental part in providing grounds for validity and reliability. Reflecting on the study's aim which is to explore the interplay between housing needs and resilience theories, the study further provides qualitative and descriptive information. In doing so, a research approach selected is qualitative, following a case study design where data is collected through semi-structured interviews, and unstructured observations. The participants interviewed are stake holders such as community leaders, government officials, and residents from the case study area. This will allow a more

comprehensive exploration of participants' experiences and views. The data collected will be analysed using an interpretative phenomenological analysis together with a thematic analysis. These will aid in unpacking the complex relationship between housing needs, resilience theories, and pandemics.

Limitations

When generating a study, it is inevitable to encounter flaws and challenges that may limit the study (Walliman, 2011). This is particularly evident during research methodologies, which may be used and reproduced in prospective studies. Although these limitations will be thoroughly discussed in chapter 4 of this research report, the preliminary anticipated procedural limitations are bound to time constraints for the Degree studied by the researcher. These include finding the most feasible case study or study site context, getting permission on time from the relevant institutions, obtaining ethical approval to proceed with data collection, language barriers with participants, the count of samples, and general cost implications to further communicate the study.

Structure Outline

Chapter one of the study has introduced the study and has also alluded to some of the fundamental areas of the study such as the research problem, aim, and questions. The key concepts iterated in this chapter speak to Covid-19 (Pandemics), resilience, housing needs, and stakeholders' perceptions. Chapter two will discuss the literature and bring together a comprehensive understanding of the relationship between housing needs theories and resilience theories. With an emphasis that it is the pursuit of needs fulfilment that informs resilience theories. The third chapter will give the study context and outline some of the fundamental policies and legislations that guide and facilitate housing delivery in South Africa. The revision of housing policies and interventions confirms the evolution in housing needs, and the degree to which these policies can be revised without adverse impacts shows a degree of resilience. These chapters will be followed by the methodology chapter which will focus on discussing the case study research design selected for this research report. The fifth chapter will present and analyse the case study findings, and the concluding chapter will conclude the study by discussing key housing aspects needed to facilitate resilience against future shocks such as pandemics.

Conclusion

The subject of housing provision is a critical area of inquiry in South Africa, given that it is one of the ways in which the paradox of solution and problem intersect. This paradox exists because although housing provision is intended to solve the housing crisis, it simultaneously gives rise to other challenges such as inequality and displacement. This is magnified by eras

of global shocks where research curiosity probes the existing measures and their degree of facilitating resilience correspondence. This chapter has provided a general insight into the basis of the study by cohesively describing the research problem and outlining the aims and questions. The following chapters will discuss the major concepts that relate to the study through a variety of literature discourses, the study context, field work methodologies, analysis, and conclusion.

CHAPTER 2. LITERATURE REVIEW

Introduction

This chapter brings together an overview of the literature that discusses core concepts of the study, such as housing needs, resilience, global shocks, pandemics, and sustainability. It seeks to present general existing knowledge that will provide context for the reader and simultaneously support the answers to the research questions. The chapter covers four sections that cover 1) theories that inform housing needs, 2) theories of resilience, 3) the relationships between the housing needs and resilience and, 4) measurements of needs fulfilment. The outcome of this chapter is to provide a framework for the methodology chapter and analysis chapter. It fosters primer knowledge on the dynamics of housing needs and resilience theories given the context of global shocks such as pandemics.

1. Theories that Inform Housing Needs

Central to this research study is the inquiry on housing needs, it Is then essential to go back to basics and understand some of the fundamental concepts of needs. Inquiring on issues such as needs either follow bottom-up or top-down perspectives and influences. Camfield and Allister(2005) allude that within bottom-up theories, the belief is that how people perceive their needs is based on their internal influences, such as traits and genetic predisposition. Top-bottom perspectives, on the contrary, argue that external influences and factors are the ones that determine experiences of needs. The latter simply implies that there are universal basic human needs that inspire a sense of fulfilment (Lachmann, Syariska, Kannen, Blazkiewic, Trendafilov, Andone, Markowetz, Li, Kendrik, and Montag, 2017).

Housing is a universal need that influences a degree of fulfilment within individuals. Furthermore, this universal need also experiences external events such as those of markets. These shocks or externalities on the economy, directly affect housing markets and alter perceptions of what constitutes universal needs. In a recent study by the OECD (2020), there is an acknowledgment that housing supplied as relief in the era of the Covid-19 pandemic should be responsive to the changes in demand and the evolving needs of society. This brings to light the fact that pandemics among other forms of global shocks, cause changes in the needs of society. For example, the needs during the Covid-19 pandemic were shaped by the shutdown of economic activities resulting in many households losing income and being vulnerable, particularly the urban poor. More households were at greater risk of material deprivation which includes the inability to pay rent or mortgage. This section of the chapter speaks to theories of needs, their influences, and how they blend into discourses of housing needs.

1.1. Theories of Human Needs

Needs theories are central to policy and development debates. One of the challenges in accurately responding to the needs of locals is the adoption of universal needs approaches which do not consider local cultures and contexts, thus inadequately fulfil needs. It is asserted that a theory of human needs can offer a framework for conceptualising what needs are (McGregor, Camfield, and Woodcock, 2009). Policy makers can then be helped by the empirical quality of life data to determine what constitutes needs-satisfiers in different sociological and cultural situations. Additionally, empirical quality of life data can offer crucial data to support public interventions on the relative value of various needs-claims of society(*ibid*).

The idea of human needs is one of the fundamental justifications for public policy and social welfare. The theory of revealed preferences by Paul Anthony Samuelson (1938) primarily eliminates the confusion in debates about what constitutes a need and what constitutes a want. He argues that the market, and not the government, offers the most effective mechanism for satiating both. This concept explained refers to how individuals are influenced by policies to consume certain products. (Samuelson, 1938). This is an extreme stance, but regardless of a society's reliance on the market concept or lack thereof, the language of needs is nonetheless influential in discussions of public and social policy. McGregor*, et al*., (2009) also point out that some discourses reject the delineation of needs and wants because human needs cannot be subject to the paternalist imposition of external values and principles. This is a more sensible position because the differentiation of a need and want can primarily be determined subjectively and based on available resources.

One other primer theory that debates needs are Maslow's (1943) Hierarchy of Needs. This is a psychological theory that argues that there are 5 standard levels of needs and that when the lower levels of needs are satisfied, precedent needs emerge (Estaji, 2014). These five needs are categorised as *basic* (physiological, safety, love and belongingness, and esteem) and *being* needs (self-actualisation). In elaboration to these needs, physiological needs include those such as air, water, hygiene, light, sanitation, shelter, and clothing. Safety needs include health, personal, emotional, and financial security. This theory is further developed by Clayton Alderfer (1968) who additionally categorises these needs as existence, relatedness, and growth needs. Estaji (2014) argues that an ideal house would be one that fulfils all levels of needs. This means that a house would be motivational and encourage users to prosper and capacitate their potential. The counterargument to this theory is that empirical observation confirms the limitations of thinking in terms of a hierarchy, as we frequently see people sacrificing the satisfaction of their more 'basic' wants in favour of their 'higher order' needs (De Waal, 2004). Additionally, it claims that the idea of a hierarchy of needs is fundamentally

flawed because there is no specific order in which needs can be fulfilled (Doyal and Gough, 1991: 159–64).

According to Bradshaw (1972), there are four distinct types of needs: normative (determined by "professionals" or "experts"), comparative (assumed from shortfalls in resources for a particular group), expressed (articulated to be satisfied), and felt (not expressed, or articulated in a way that will not enable their satisfaction). The public policy community has largely embraced Bradshaw's typology of needs, and one application of it is the idea that a need is more real when it is recognized as such from multiple angles (McGregor, *et al.*, 2009). This strategy makes sense because, for instance, if a need is acknowledged by the individual experiencing it and by knowledgeable observers of their situation, it would seem logical to recognize it as a need. However, because the Bradshaw typology does not give us a theory of human needs, it is impossible to utilize it to compare across many social and cultural situations.

On the other hand, Doyal and Gough (1991) develop a thorough and universal theory of human needs as a required foundation for any public action. Their considerations lead them to argue for the recognition of only two fundamental human needs: the needs for "health" and "autonomy," which are universal in the sense that depriving anyone of either of them will cause that person harm that can be objectively verified in any social or cultural context. For meaningful human action and interaction, these two fundamental requirements must be at least partially met.

The Doyal and Gough (1991) hypothesis is further developed by a framework in which a series of eleven universal intermediate needs should be met to satisfy the two standardised basic needs (health and autonomy). These universal intermediate needs are:

- ‘Adequate nutritional food and water
- Adequate protective housing
- Non-hazardous work environment
- Non-hazardous physical environment
- Appropriate health care
- Security in childhood
- Significant primary relationships with others
- Physical security
- Economic security
- Safe birth control and childbearing
- Appropriate basic and cross-cultural education’

(Doyal and Gough, 1991:157)

The theory considers contextual circumstances by acknowledging that these intermediary demands can be satisfied in a variety of social and environmental standards. However, debunks the satisfaction of these needs through *inhibitors* (sacrificing one need for another due to financial barriers), *pseudo-satisfiers* (temporary solutions that do not satisfy an underlying need), and *violators* (disruptive behaviours that sabotage the satisfaction of needs such as, rejecting and discriminating others in the process of fulfilling needs). The Doyal and Gough theory of human need already goes much beyond the conventional understanding of "basic needs" which are typically understood to include only food, drink, and shelter.

Doyal and Gough (1991) further identify the preconditions necessary for the realisation of the universal intermediary needs - procedural and material preconditions. Procedural preconditions are essential in identifying and satisfying needs. These conditions include rationally identifying what needs are, using practical knowledge to decide on how they can be satisfied, and fostering stakeholder discussion and agreements. Material preconditions on the other hand emphasise being considerate of the available resources and capacities to adequately satisfy the identified needs. These consider how needs satisfiers can be efficiently produced.

Since the development of the Doyal and Gough theory of needs, discussions about public policy and theoretical developments have greatly expanded the knowledge of needs. One of the early proponents of 'the basic needs movement in international development (Streeten, Cohen, and Rashid, 1995), has advocated for the inclusion of "qualitative" needs, such as 'participation, a good environment, and freedom to choose'. Another addition to what is considered qualitative needs is that of Agarwal (1992) who argues for the acknowledgment of spiritual dimensions (Camfield and Allister, 2005).

1.2. Discourses of Housing Needs

As with human needs, the interpretation of housing needs is not linear and involves consideration of multiple shareholders and stakeholder needs. Ytrehus (2001), discusses what the concept of needs with regard to housing entails particularly for policy development through a Norwegian case study. She mentions that the origins of housing needs are interpreted based on Spatial Tradition Characteristics, Market-Oriented Tradition, a combination of these approaches, and other alternative approaches.

1.2.1. Spatial Traditional Characteristics

According to Ytrehus (2001), these characteristics revolve around spatial and physical elements that determine housing needs; such attributes that can be used to determine "sufficient" size, unnecessary, or extravagant housing conditions. This thinking was

challenged on the basis that housing needs are determined objectively and scientifically through research or field studies, overlooking historical and social dimensions of housing needs and usage (*ibid, p.168*). This form of research on the housing needs of people had a direct impact on what could be identified as housing needs and on whose terms.

Primarily, the Spatial Traditional Characteristics interpretation of housing needs was inspired by Architectural and design functionalism - physical design shape of a dwelling. Where a house was to serve as a functional machine, with emphasis on the practicality and efficiency of residences, and this could only be determined by experts since they are more knowledgeable. This is similar to persistent housing delivery approaches in South Africa that follow top-bottom approaches despite the many policy instruments that advocate for bottom-up approaches (Pitthouse, 2009). With Architectural and Design Functionalism

Following this was the establishment or rather prominence of Spatial Planning Standards. This is where experiments and analysis of housing needs where people as subjects in experiments were tested to produce spatial standards (Ytrehus, 2001; *p.168*). These experiments looked at both humans and their behaviour and proved that size is still a prominent housing need. An argument that Ytrehus (2001) makes regarding such experiments is that people's housing needs will be better understood if they are educated about this basic need, to know how it can transform their lives. That although experts may have sufficient knowledge of what needs entail, this alone is objective and limited since it ignores the fact that genuine housing demands are the product of a complex web of biological, psychological, and sociocultural factors rather than solely biological functions. The Spatial Traditional Characteristic's major flaw is the lack of social and historical dimensions. Closely related to the Spatial Traditional Characteristics are Bramley's (2016) contemporary normative housing needs, those being the security of tenure, suitability, condition, and social needs.

1.2.2. Market-Oriented Tradition

This is a commonly known interpretation of housing needs, which directly linked to the housing market and is supply driven. From the Market-Oriented Tradition, housing needs are parallel with subjective preferences like the personal preferences of people in the housing market. The centrality of this approach is derived from neo-classical economical and libertarian thinking (McGregor, *et al.*, 2009) and ideas of revealed preferences. This view prioritises the market over the needs of the general people because it argues that it is impossible for housing needs to be objective. However, the subjectivity is directed to the housing market which limits individual preferences and wishes.

This tradition is built on economic theories with an emphasis that needs are determined by the market's demand and supply base. The market approach is critiqued for having a too narrow

and limited framework that assumes it as an end in itself and not a means; that all participants in a market are well informed about the market, that only the market shapes needs, that housing is like all other forms of commodities, and that it is independent of the many factors that shape people's psychological mechanisms (Ytrehus, 2001, *p.169*). This limited framework ignores the whole range of human preferences. For instance, people are tied to social and cultural standards that reflect how they meet their own needs for survival and welfare. The greatest doubt with this approach is that it can exacerbate inequality gaps, and further exclude those who need housing the most.

1.2.3. Spatial and Market Traditions Merge

The subjective market traditional approach could arguably have been established in efforts to counter the objective spatial traditional approach. Combining these two approaches creates a theoretical paradox since they are parallel and yet conflicting. A key policy document from Norway expresses this: It discusses how smaller households are increasing, but at the same time, more one- and two-person households prefer larger homes (Ytrehus, 2021, *p.170*). This causes inequal housing distribution, where those who need larger homes, have limited spaces and those who do not, have spacious houses. The paradox also permeates to the provision of services to the poor, where studies have proven that the market tradition suggests that government provides safety nets for recovery should the market fail. If the government provides these nets it would have to be on objective measurements since a red line for what basic needs are, or what poverty is, should be drawn. The objective measurement of basic needs does not reflect the purest form of the market approach, because there is a possibility that a person's needs can be different to what is identified as basic needs.

1.2.4. Alternative Approaches

Reaching a consensus between stakeholders and beneficiaries in formulating housing policies is often challenging. This is because policy decisions should not be made at the cost of people's right to choose, meanwhile both the spatial and market approaches compromise this right. According to Ytrehus (2001) the afore-discussed approaches do not take into consideration social and cultural aspects that constitute housing needs, thus further alternative approaches were introduced such as the cultural relativist tradition and the universal standards tradition. Estaji (2014) also argues for housing to be flexible and adaptive to changes in climate, family size and structure, and the changing needs of people.

The cultural relativist tradition acknowledged that needs change over time and that environmental and social contexts have an influence on housing needs. In essence, this approach is contingent and understands people's needs based on their perceptions. Relativist positions have always been useful in poverty studies because over time what is considered

poverty changes. Central to this approach is time and place because what is deemed essential is not fixated.

The argument with this approach in determining housing needs is how it takes account of social, cultural, and historical contexts and relates them to time, place, topography, climate, and the social environment (Ytrehus, 2001). This understanding of needs dissolves needs as being absolute because there are changes in the cost of goods and the goods produced. Furthermore, housing crises are often restricted to notions of “minimum” or “threshold” however, these exacerbate inequalities and deprivation more than contributing to welfare.

It is through cultural relativism that inclusion and social equality are considered when responding to the needs of people. In addition, relativism advocates for participation and the prioritisation of collectivism. McGregor, *et al.*, (2009) also mention that relativism constitutes effective democratic governance and community welfare, an example being the United Nations Millennium Declaration agreement. The challenge however with this position is that when narrowed down it debunks the minimum standards of what can be categorised as adequate housing.

The universal standards tradition approach is contrary to cultural relativism in the sense that it categorises all forms of human needs as universal. It is the dominant and normative approach applied in policy frameworks. The argument within this needs position is that policies directed towards prioritising and satisfying the needs of all people are essentially a shift from market-oriented approaches and an alternative approach. This takes us back to Gough and Doyal’s universal needs theory which is foundational in guiding governments to make informed decisions.

The point of departure is that needs are standard and can exist outside individual preference, and that is what sets them apart from wants. However, the debate of what is considered a need, or want is continuous. The approach also emphasises that needs are supposed to be a “means” thus being enablers and not means to an end. For example, a person would thus need X (housing) to obtain Y (asset accumulation). McGregor, *et al*., (2009) mention that the challenge in adopting other needs-determining approaches in public policies is due to the limited public resources which press governments to rather pursue universal needs approaches. It also supports Kasser, Kanner, Cohn, and Ryans’ (2007) view that satisfying other needs apart from those that are universal does not constitute well-being.

1.3. Key Housing Need: Healthy Home/Housing

Renson (1991), National Centre for Healthy Housing (2021), and Eshkavari (2022) discuss some of the requirements and principles of healthy housing, which can alternatively resonate with housing needs. A state of total physical, mental, and social well-being is what defines

healthy housing (Renson, 1991). Housing that is in good condition gives residents a sense of belonging, security, and privacy. This is important in areas where people spend most of their time in their houses and also base their work in their homes. Therefore, a house mustn't pose any risks, especially those health-related. Studies have found that low-income households are more likely to be found in low-quality housing which exposes them to risks as compared to other groups (National Center for Healthy Housing, 2021). Renson (1991) discusses some guidelines for a healthy home such as:

- Household overcrowding - a condition in which more people are living in a home than there is room for, as measured by rooms, bedrooms, or floor area, causing negative impacts on physical and mental health.
- Low temperatures and insulation - the risk of respiratory disorders such as asthma attacks or their symptoms, the deterioration of chronic obstructive pulmonary disease (COPD), and infection is increased by cold air's inflammation of the lungs and obstruction of circulation.
- High Indoor temperatures - increase rates of chronic disease linked to thermal discomfort and negative health outcomes which may result in cardiovascular mortality and emergency hospitalizations.
- Injury hazards – all implications that can be a result of structural collapse.
- Housing accessibility – to ensure that all those who may be discriminated against from acquiring houses are prioritised, such as people with disabilities and functional impairments.

Other guidelines in the paper relating to healthy housing include access to quality water, air quality, tobacco smoke exposure, and noise. The guidelines also offer precautions against hazardous materials such as asbestos, lead metal, and radon gas. The National Centre for Healthy Housing (2022) outlines ten principles of a healthy home. These principles are that a house must be dry, clean, pest-free, ventilated, safe, containment free, maintained, thermally controlled, affordable, and accessible. Eshkavari (2022) on the other hand discusses the technical and social requirements of a healthy home, which are divided into five categories. He argues that policies for healthy homes in developing countries should be informed by the challenges of a healthy home; home design requirements; space and density requirements; social necessities; and shelter requirements.

Within the South African context, the government provided housing for low income households has encountered considerable criticism regarding some of the healthy housing requirements. The conclusions of a study by Manomano (2013) suggest that government provided housing for low income huseholds does not meet the requiremnts of healthy housing. This is because the data collected in the study indicated that the houses are of poor quality materials, they do

not have access to clean water, are of inadequate size, are not safe, and lack access to social services. A similar study was conducted by Moolla, Kotze, and Block (2011) to determine satisfaction and quality of life in RDP houses in Braamfischerville. The study found that overall, over 50% of participants were satisfied with the RDP houses, however, they critisised the size, quality, ventilation, kitchen and toilets. Participants' satisfaction with the houses was attributed to the good access to services, amenities, and security of tenure.Another study by Sekoboto and Landman (2019) compared RDP housing and self-help housing on their ability to empower the poor using a case study in Botshabelo, Soweto. The study found that self-help housing had several determinants that made it more desirable – which in this case can be linked to guidelines of a healthy home. Self-help housing allowed beneficiaries to have a voice throughout processes of the housing project which as a result allowed for the housing to have more improved access and choice, social neccessities, and security as compared to RDP housing.

2. Understanding Theories of Resilience

The notion of Global Shocks has elementary significance within economic and environmental disciplines. It was after the 2008 financial crisis that OECD (2011) founded the concept from a risk governance dimension. The dimension's focus was on disaster risk and the mitigation of systematic financial risks, pandemics, cyber risks, geomagnetic storms, social unrest, and the anticipation of extreme events. They aimed to explore ways to strengthen resilience by generating measures that will enhance the capacity to identify, expect, manage, and mitigate massive disasters. Furthermore, to explore opportunities presented by shocks *(ibid*).

In the field of urban studies, resilience has surfaced and gained significance through technical dimensions as seen with earlier interventions from the UN (United Nations) Office of Disaster Riak Reduction, the UN-Habitat, and the Rockefeller Foundation on 100 resilient cities (McGill, 2020). The counter effects of global shocks are on economic recovery, social cohesion, and political stability. Glaeser (2021) argues that cities without a doubt have always been able to recover from disasters, by dating back to events that could have destroyed cities. These events include the black deaths, the 1666s fires in London, the 1790s epidemics, and the recent Covid-19 pandemic. He further mentions that these may have minimal impact on urban fortunes unless they were/are accompanied by a major economic shift.

This trend of anticipated city resilience is seen on a more local scale with the Gauteng City-Region Observatory's occasional paper by Harrison (2020). In the paper, he analyses epidemics in the city of Johannesburg from 1893, until the present, with a focus on spatial interventions and systems of governance that can be adopted. McGill (2020) offers a similar view by looking at urban planning as the missing link in city resilience, but his focus was still

dominated by technical dimensions for disaster reduction through environmental and physical vulnerabilities.

Three areas of resilience will be discussed to bring insight into the relationship between resilience and sustainability, evolutionary and transformative resilience, and how resilience relates to housing and global shocks.

2.1. The Distinction between Resilience and Sustainability

Resilience is fundamental in understanding how systems respond to extreme trauma within different geographical scales. Resilience is also a critical component of sustainability. Sustainability is generally defined as a way of addressing present system requirements without hampering the capacity to meet future requirements (Walker & David, 2006).

Olazabal, Chelleri, and Waters (2012) mention that resilience is a step toward sustainability and that these two concepts share principles such as precaution on the use of resources, future risks, preventing vulnerability, and future-driven ecological integrity. This is a similar sentiment to Harrison, Bobbins, Fatti, and Humby (2016) who argue that resilience and sustainability are not the same and do not replace each other, but rather resilience is a way of thinking that leads to sustainability. Overall, resilience is distinct from sustainability, and it does not guarantee desirable outcomes (Walker and David, 2006; Harrison, *et al*., 2014; Olazabal, *et al*., 2012).

2.2. What is urban resilience?

There is no uniform definition for urban resilience, the definitions of this concept are largely influenced by context, time horizon, and field of knowledge. Its prominence is also debated to be replacing sustainability discourses (Davoudi, 2012), and this is partly because it is a malleable concept used across multiple disciplines.

From a psychological paradigm, the focus of resilience is on people's capacity to withstand and adapt to rapid stressor changes. An economic and scientific paradigm relates the concept to the ability to bounce back from shocks. Whereas an ecological paradigm relates to the ability of a system to self-regulate and adapt to change (Davoudi, 2012; Harrison, *et al*., 2016). Walker and David (2006) define resilience as the ability of a system to absorb disorder and still maintain standard function and structure. Furthermore, Olazabal, *et al*., (2012) define it as the ability to adapt and transform through change.

These are simplified understandings of what resilience is, however, when resilience is practically applied to human and natural systems it becomes complex with inevitable consequences. For example, with cities, resilience is more dynamic and involves relationships with ecosystems, social networks, governance structures, and infrastructure systems

(Olazabel, *et al*., 2012), and disruption of one of these systems has ripple effects on other systems which can either be short-term or long term. Harrison, *et al*. (2014) give an example of the rapid establishment of informal settlements in a city and how these can disturb the larger city system.

This goes to show that building resilience can be costly and ineffective if not well coordinated. For this reason, cities are identified as complex systems that can be understood through panarchies. Panarchies are defined as transformative complex adaptive systems, which means that all systems within urban spaces are interlinked and collectively go through growth, accumulation, restructuring, and renewal throughout cycles of change (Walker and David, 2006; Olazabel, *et al*., 2012; Davoudi, 2012; Harrison, *et al*., 2014).

2.3. Diving Deep into Resilience

It was in the early 21st century that the disciplines of the social sciences gave increasing attention to urban resilience (Sanchez, van der Heijden, and Osmond, 2018). However, there are associated discourses that question its efficacy in practice since its implementation is not linear and predictable. The rise of resilience thinking has seen several blueprint toolkits stemming from governmental and non-governmental reports aiming to facilitate resilience (Walker and David, 2006), and this like many conventional approaches has been critiqued for its applicability, especially in the Global South (Rosenzweig and Solecki, 2018) . This is because the Global South is rapidly urbanising at higher rates than other parts of the world, has larger numbers of poverty, and has stagnant economic growth. This makes Cities of the South vulnerable, without infrastructure and investment, and with weak governance and management (Olazabal, *et al*., 2012). For this reason, resilience building is seen as a prescribed remedy for building long-term sustainability in these spaces because of its systematic framework for urban issues such as housing, water, and health care, among others. Roggema (2015) also confirms that spaces which experience rapid population growth are more vulnerable to shocks and stresses. In addition, it is also important to thread resilience assessments to be context relevant and identify applicable types of resilience strategies needed to ensure that research and policy frameworks of the concept have a meaningful impact. The realisation of differing contexts has given rise to resilience being a framework thought of as transformative or evolutionary, and these are further discussed in this section.

Contemporary definitions of resilience are influenced by the trends in general development and urban environments. These are a shift from traditional to neoliberal, new urbanism, and postmodern approaches in planning and management of development. According to Olazabal, *et al*., (2012) the view that urban interventions foster balance has been phased out for its rigid targets that do not accommodate external factors that may bring change.

Davoudi (2012: 204) pairs evolutionary resilience with interpretive planning for their correspondence in prioritising “fluidity, reflexivity, contingency, connectivity, multiplicity, and polyvocality”. Evolutionary resilience does not assume recovery to be a state of equilibrium but rather a state of transforming as a form of response to disturbance. It argues that things never go back to how they initially were prior to a disturbance, particularly complex adaptive systems – cities (ibid). For this reason, it can be argued that this thinking of cities as systems contrasts with traditional thinking of systems as self-reliant and associated with survival discourses.

A similar school of thought is one by Fastenrath, *et al*., (2019) who discuss the shift of urban resilience from reactive disaster management to proactive urban innovation strategy. Their line of discussion is that contemporary approaches to resilience are parallel to how it is defined, that being, resilience as “non-static, ongoing, co-evolutionary systematic change in complex socio-ecological-technological systems” (*ibid, p.3*).

Another associated form of resilience is ‘transformative resilience’ which Gotham and Campanella (2010) and Rosenzweig and Solecki (2018) argue does not necessarily imply responding or adjusting to trauma but rather as a condition and process where systems learn from stressor experiences, restructure, and reinvent themselves. Transformative resilience in essence is intensified evolutionary resilience. At the centre of transformative resilience is the acknowledgment of diversity, that recovery for different systems cannot be the same, because there are units and sub-units that exist within systems that may respond differently.

Research on resilience requires critical thinking about the parameters of the concept and its application. This is because things change all the time posing both threats and opportunities. These changes also occur differently, either slow (stresses and chronic) or rapid (shocks), and the recognition of how things change triggers different forms of responses (Walker and David, 2006; Roggema, 2015).

Davoudi (2012) cautions against the translation of resilience thinking as complex adaptive systems from the natural environment to the social environment. At the same time, he stimulates critically thinking about the concept. This is firstly because the social environment relates to human intervention and politics which can promote or hinder resilience. Secondly, with human systems there are uncertainties in the outcomes of resilience, whether these are desirable, and the standard of measure for desirability. Olazabal, *et al.,* (2012) mention that resilience outcomes can leave people in the same conditions they were initially in, or even trap an individual in dire situations such as poverty traps. This is followed by the definition of a system's boundary. A systems boundary responds to the question that asks the resilience of ‘what to what,’ which in a sense excludes certain elements within a system. Olazabal, *et al.,*

(2012) further give an example of these boundaries, attributes, and components that can be used to assess 'resilience from what to what?'. These include resilience from scale, administrative boundaries, livelihoods, and income needs among others to a specific shock, disaster, or impact. Lastly, the issue of power and politics in the desired outputs of resilience and who benefits in the process can often lead to conflicts because some individuals benefit while others suffer losses.

With all being said, resilience like many other concepts has its share of limitations. Resilience within the urban planning and management discourses is attached to the view that infrastructure is an elementary source of risk reduction (Lankao, Bulkely, Pelling, Burch, Gordon, Gupta, Johnson, Kurian, Lecavalier, Simon, Tozer, Ziervogel, and Munshi, 2018). According to Harrison, *et al*., (2014: 48), these are hard dimensions of resilience, and there is a need to incorporate soft dimensions into resilience thinking such as "aesthetic or symbolic qualities of the physical environment, people's behaviours, needs and perceptions, social networks and dynamics, patterns of usage, and so on". Levine, Pain, Bailey, Lilianne, (2012) also raise a missing debate in resilience discourses and that being humanitarian action, and how humanitarian aid as an approach can result in long-term resilience and recovery. A Singapore case study by Yip, Ge, Yan Ho, Heng, and Shin Tan (2021) demonstrates that the cultivation of community cohesion contributed to more responsible behaviour, the distribution of essential items, and the alleviation of social anxiety during the pandemic.

Another limitation is the misappropriation of resilience and the possibility of it being another "mantra" or "buzzword" used to justify development practices (Davoudi, 2012; Harrison, *et al*., 2014; Levine, *et al*., 2012). This is not distinct from Levine, *et al*., 's (2012) identification of urban resilience thinking as one of the utopian ideas alongside notions of a good city and rights to the city, that have emerged in the 20th century and seek to transform urban spaces with unclear approaches on implementation. One compelling contribution made to this paradigm is that of Olazabal, *et al.,* (2012: 38) who state that the limitations of adaptation and transformation are highly dependent on society, its culture, and the flexibility of the structure. These directly influence their capacity to engage in processes of transition and accept the need for change, based on perceptions of what they will benefit from and at what costs.

3. The Relationship Between Housing Needs and Resilience

It is resilience thinking which realises the development of sustainable human settlements and associated principles, precisely ones that involve resilient urban forms. Urban Forms are synonymous with urban spatiality. These have to do with physical components and structures of spaces, such as individual buildings, neighbourhoods, streets and streets networks, public and open spaces, and the city as a whole (Harrison, *et al*., 2014). The associated principles

of both resilience and sustainability are “density, diversity and mix; pedestrians first; transit-supportive, place-making, complete communities; integrated natural systems; integrated technical and industrial systems; local sources; engaged communities; redundant and durable-life safety and critical infrastructure systems; and resilient operations” (*ibid*, p.44). This section of literature considers Davoudi’s (2012) caution on resilience that draws boundaries of “resilience of what to what?”, where in this case the line of discussion is on the ‘resilience of housing, its users, and the environment to shocks’.

Popular housing debates that resonate with urban form are respectively concerned with green infrastructure and transport systems (Levine, *et al*., 2012). These concerns go beyond housing as a structure but focus on neighbourhoods as well. Neighbourhoods serve as small-scale complex systems that are made of both physical urban structures and a society that inhabits and uses the neighbourhood. Resilience in these areas is two ways where it can imply the transformation or maintenance of existing physical structure (Harrison, *et al*., 2014) influenced by physical or functional change or growth. Inevitably, spatial form and structure follow the needs and priorities of changing social contexts which ultimately change the environment. Furthermore, human society is an active agent that brings about change at both physical and non-physical levels. Mello, Gomez, and Mendez (2021) argue that these changes can be temporary at a city-level known as the ephemeral production of space. This production of space is influenced by how people move around in space for a limited time, causing changes in landscapes. Charlton (2017) also discusses ‘invented co-production and ‘incubator urbanism’ which reflect how society unintentionally transforms the neighbourhood and household forms by modifying the built environment as a means of livelihood building. To be more precise, invented co-production relates to the informal, unanticipated actions by people who reside in formal neighbourhoods that modify the built environment, and this can be through backyard dwellings and structures for retail activities (*ibid*, p.99), and incubator urbanism refers to people in society leveraging on existing infrastructure to improve their life chances and prospects (*ibid*). These exemplify how housing serves as a means for adaptation and transformation in the line of resilience thinking. Harrison, *et al*., (2014) are of the idea that since urban systems unlike ecological systems are also influenced by human foresight and intentionality, planning without considering the possibility of change is useless and harmful. They further mention that change should be embraced because when development allows for fluidity, informality is seen as a positive outcome and strength. In this sense, informality and informal settlements reflect resilience, where people adapt to limited employment and housing opportunities (*ibid*).

An infamous principle of cities and resilience is that of density, and this also applies to neighbourhoods. Harrison, *et al.,* (2014) argue that density does not independently guarantee

resilience, it has to be coupled with qualitative measurements. As with cities in general, resilient housing developments are not only dense but diverse, have a variety of land uses, facilities and amenities, and types of buildings. These support the qualitative dimensions of density since they facilitate the provision of society's daily needs and ease access. An example of density being a challenge is when it is only focused on the increasing number of people and buildings. This was seen during the peak of Covid-19 when physical and social distancing measures were a priority and applying these measures was a challenge in densified space (Valenzuela-Levi, Echiburu, Correa, and Hurtubia, 2021). As with informal settlements being dense environments, regardless of the lack of services, their urban form caused the virus to easily spread, and that does not portray disaster resilience and reduction. As a response, relocations were made so that housing can be allocated. This measure in itself although in response to health hazards, can be seen as contradictory to resilience since it imposes further disruption of livelihoods. Levine, *et al*., (2012) mention that in most cases, the crisis provides a loophole for the powerful to advance their private interests and agendas, and such is seen with relocation, and this further reflects Davoudi's (2012) caution of political influences on human resilience systems.

The scope of density as a principle covers other areas such as low transportation energy inputs, maximising use of space, and the reduction of carbon footprint. Central to these is lowered transportation energy inputs through public transport. According to Valenzuela-Levi, *et al.,* (2021) the link between transportation and housing is missing in most policy debates. They propose that housing and transport policies should be integrated more especially in the Global South where metropolitan areas are sprawled and segregated, and the urban poor are forced to live in urban peripheries and use overcrowded public transport to get to work and access services (Simon, 2016). Contemporary housing markets have perpetuated sprawled and informal developments, and this makes this form of integrated proposal meaningful to development. This is likely the case in practice with density development where it urges the use of public transport and non-motorised transport. Factors that contribute to the use of public transport in these spaces are fewer travel times to public transport stops and cost efficiency.

The development of transit-oriented developments, compact cities, polycentric cities, and smart cities show how density promotes urban efficiency and environmental conservation (Simon, 2016). This in a sense goes to show that density as a principle of resilience is highly dependent on how it is managed and leveraged to produce greater resilience. There are some contexts where density building can exacerbate problems rather than create solutions. Relying less on private cars reduces energy use, and the cost of traveling, and promotes access to opportunities. Transport adequacy and efficiency is a highly significant property of housing especially when there are external shocks, an example is with the outbreak of Covid-19, where

traveling cost spiked especially for public transport, and those affected were the urban poor who resided in urban peripheries (Valenzuela-Levi, *et al*., 2021) and commuted longer to access benefits in urban centres.

One other important notion that ties housing, resilience, and shocks are green initiatives such as buildings and infrastructure. These are intended to address issues of climate change and disaster risks. These ideas first emerged as agendas of wealthier areas through garden city movements inspired by Ebenezer Howard. Garden cities are settlements that are planned holistically with the natural environment and offer prestigious affordable housing with eased access to opportunities in beautiful, healthy, and engaging communities (Simon, 2016). This is also referred to as complete communities. According to Simon (2016: 65-66), the principles for Garden Cities are:

- Land value capture, which is reinvested within the community,
- They are vision led with community engagements,
- Allow for long-term land ownership,
- Have a mix of affordable tenure and housing types,
- Promote mobility and accessibility,
- Designed beautifully with houses that have gardens, which evokes rural nostalgia to create healthy societies with prospects to grow food,
- Development that improves the environment, offers a vast network of green infrastructure, boosts biodiversity, and uses energy-efficient and low-carbon technology to ensure climate resilience.
- Have neighbourhoods that are pedestrian-friendly, vibrant, and sociable with strong cultural, recreational, and commercial amenities, and
- Transit-oriented, integrated with access.

These principles of a Garden city reflect those of sustainability and resilience thinking, and this supports the statement by Olazabal, *et al.,* (2012) that resilience is an old concept that has only gained momentous contemporarily.

Simon (2016) further mentions the different spatial scales of urban greening initiatives, and relevant to this study are individual buildings, street blocks, and urban scales. Individual buildings scale is the lowest scale, often deemed as insignificant since it only affects a small number of individuals. Examples of this level of intervention include energy conducive measures such as solar panels, wall insulations, household recycling, use of public transport and non-motorised commuting, composting organic waste, or using electric vehicles. This is followed by the street block scale, where individual households collectively install green facilities such as recycling services and so on. At an urban scale, these greening initiatives

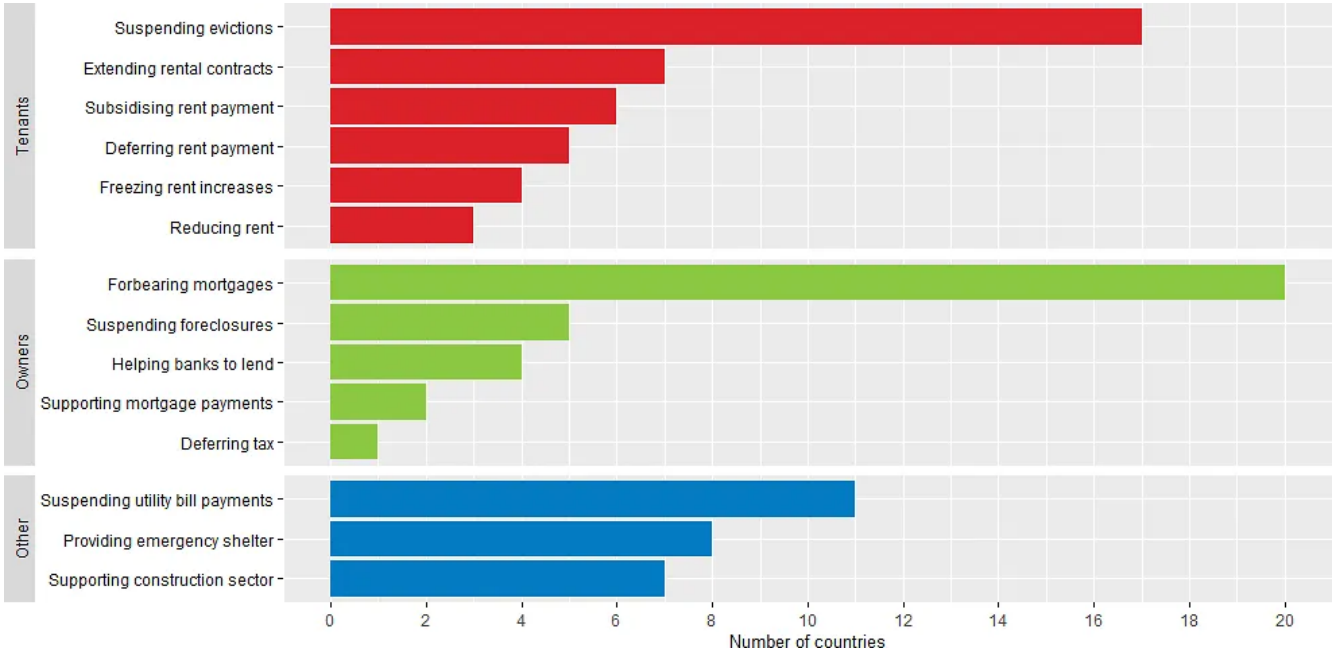
are undertaken by local authorities, simultaneously this scale benefits from integrated planning and implementation. Harrison, *et al*., (2014) consent with the aforementioned and identify land, energy, water, waste, food, and materials as areas of urban greening where modern trends are eminent.

The concept of urban resilience requires collaborative commitments from both the state and society at different scales. According to Valenzuela-Levi, *et al*., (2021) government interventions made on housing and infrastructure during the Covid-19 pandemic should remain embedded in realising adequate housing and transport for the poor and moreover consider resilience, sustainability, and equity. On this note, Horne, Willand, Dorignon, and Middah (2021) mention that housing provided is a spatial and material defence against the spread of infection within communities, perpetuates issues of inequality during the Covid-19 outbreak. What the majority of these scholars argue for is that there should be the maintenance of development principles alongside the transformation of practice. This means that principles should be contingent enough to accommodate changes in context and time horizon.

An Example of Resilience Measures applied in the Housing Sectors across OECD Countries in 2020

The housing sector has been direly affected by the Covid-19 pandemic governments had to establish several measures to alleviate the consequences the pandemic has had on construction sectors, financing institutions, and tenants (OECD, 2020). Proactive measures at a policy and legislative level to strengthen resilience were established. These included suspending evictions, extending rental contracts, subsidising rent payments, and supporting the construction sector. The diagram below indicates some of the support measures introduced for the housing sector during the pandemic across a variety of OECD countries. However, it is argued that some of these measures will have long-term implications and complementarities to the overall housing market recovery.

Diagram 1: Housing measures during the COVID-19 Pandemic



Source: (OECD, 2020, p.9)

For South Africa, the most prominent measure noted in the year 2020 was the provision of emergency shelters which was implemented from a national level (*ibid*). Furthermore, the progress of housing programmes beginning of the pandemic was unsatisfactory, and this is because funding had to be prioritized for more pressing issues in the health sector. This speaks to how the translation of resilience measures from ecological systems to human systems is not linear.

The consequences of the pandemic for the South African government were outlined by the Minister of Human Settlements in the 2021 Annual Human Settlements Report foreword where she mentions that -

"The necessary interventions, in particular, national lockdown, which formed part of the national response in the fight against COVID-19 forced many Human Settlements projects to come to a halt countrywide. This means the construction sector was compelled to re-evaluate contractual provisions and obligations, including incorporating health and safety measures to comply with the pandemic" (Department of Human Settlements, 2021, p.8).

To respond to the negative implications brought forth by the pandemic, the government introduced a variety of relief measures such as banning penalties for estate agencies who submitted statements late, rearrangements for housing loan payments, prohibition of eviction for social and rental housing, and a relief scheme for those in affordable rental housing. The department notes that these relief programmes were delayed, and the majority of vulnerable groups were excluded. (Department of Human Settlements, 2021).

The pandemic era saw new policy developments and legislative changes that supported these relief measures and these include; the Housing Consumer Protection Amendment Bill, the Human Settlement Development Bank Bill, Norms and Standards for Rentals, Finance Linked Individual Subsidy Programme, **Informal Settlements De-densification Strategy**, COVID-19 Rent Relief for Social Housing, COVID-19 Debt Relief for National Housing Finance Corporation, **COVID-19 Human Settlements Contractor Relief Programme**, Land Assembly Policy Framework, Draft Rental Policy Framework, Sector Transformation Policy, Guidelines for the preparation of regulation for determining housing benefits for the identified victims of the Truth and Reconciliation Commission, and Chapters of the White Paper on Human Settlements (*ibid*, p.32-33).

4. Measurements of Needs Fulfilment

Considering that the focus of the study is on needs inquiry and the various needs that must be fulfilled to achieve resilience during the pandemic, it is also important to understand the different qualitative ways in which the fulfilment of needs is measured. Well-being is a central measurement for needs fulfilment particularly with housing since it can be dependent on design and placemaking principles. The measurements discussed in this section will use the theories discussed in this chapter as reference. This section will also assist to guide the study's methodology.

Camfield and Allister (2005) mention that objectively defining well-being as researchers is misleading because perceptions of well-being and satisfaction between researchers and participants are not the same. However, well-being can be understood through two phenomena being, quality of life (QoL) which is based on peoples' experiences of life or social indicators, and subjective well-being (SWB) which is based on satisfaction or happiness indicators and goals (ibid). The confusion about well-being as objective and subjective has given rise to discourses in the political economy, sociology, and psychology domains.

The core limitation of health and well-being measurements is that they are not quantifiable, especially ones that are subjective. Measures that already exist can potentially cause the misinterpretation of people's experiences or reduce them to a single indicator. Furthermore, these reasons are believed to cause well-being measurements to be concerned about physical function rather than cognitive functions. Regardless of these limitations, Camfield and Allister (2005) argue that the existing measures of subjective well-being are necessary and valuable, mostly because they can provide a cognitive insight that brings an understanding of psychological reasons and questions.

4.1. Socio-ecological measurements

Socio-ecological factors can be used to assess well-being because they determine the relationship between human beings and nature. Simon (2016) emphasises the importance of green and fair cities as areas for well-being. Historically, socio-ecological concerns have been on the rise since the industrial revolution when issues of pollution and protection of the natural environment were on the rise (*ibid*). In addition, green and fair cities also imply the co-existence of human activities and other animal species, where human activities are not harmful to other species, especially during processes of settlement making. To date, socio-ecological resilience is still an imperative area of health and well-being.

Processes of settlement making can cause environmental disturbances through human activities and facilitate viral shedding which can mutate into new variants that are detrimental to humans (Syal, 2021). Syal (2021) further emphasises that disease transmission in most cases occurs from animals to human beings, where the infections for animals are mild but become severe for human hosts. Given that pandemics are a focal point of this study, there is a strong correlation between urban settlement activities and disease emergence, transmission, and outbreak. This is evident in some of the initial explanations of the SARS-CoV-2 (Covid) infection and how it became transmitted to human hosts. It is then believed that if human activities allow for higher biodiversity, the transmission of zoonotic viruses and diseases can be reduced, while simultaneously reducing biodiversity loss (*ibid*). For these reasons Mehle and Donda (2009) caution the principle of density being practiced alongside socio-ecological resilience especially in spaces that practice animal rearing. They argue that high densities create a transmission arena for zoonotic diseases, an example being the swine flu. Therefore densisty and its relativity to the natural environment is a socio-ecologicaal measure of well-being.

Although it is argued that the reduction of contact practices is the solution for outbreaks, another debate is concerned with the susceptibility of human populations to the impact of diseases. Van Seventer and Hochberg (2017) mention that other factors that contribute to infection exposure are biological and environmental factors such as food, housing, water, and sanitation. For this reason, it becomes the urban poor who are more exposed to infection because they are not well nutritioned or rather without adequate shelter to avoid overcrowding. It was in part for these reasons that adequate housing, food, sanitation, and water during the Covid-19 pandemic served as a material defense. Studies show that disease transmission rates are higher in highly densified spaces as compared to other spaces, and this is because the chances of contact in dense spaces are higher than in less-dense areas (Syal, 2021).

Another area to note regarding socio-ecological resilience is water bodies, precisely environmental reservoirs, and vectors because these sustain pathogens. There is also a

recognition that human beings should not be exposed to these water sources for health risk purposes (*ibid*). An example is mosquitoes that breed in still water to spread malaria, and in most cases, it is in these environments where informal settlement dwellers have access to water. This view counters the idea that transmission is solemnly through contact, but that it can be through several ecological components within the environment accumulating over time. For example, polluted water is a known cause of diseases and death, such as dengue which spreads through mosquitoes breeding in polluted water (Syal, 2021).

4.2. Socio-economic measurements

Socio-economic measurements determine two things, namely, how individuals respond to change, and individuals' degree of well-being. Socio-economic positions refer to an individual's economic access to materials and resources in relation to a set standard or other individuals, positioned as either high, middle, or low. Resilience within this paradigm depends on the ability to change, mitigate, or manage exposure to disturbances by being able to access economic and social resources, and ultimately freedom (Horne, *et al*., 2021). Common notions used alongside the concept of socioeconomics are inequality, differentiation, and stratification. Inequality generally speaks to difference and unequal distribution of resources, differentiation to how things can be identified as different from others, and stratification to the ranking of things or people (Wade, 2014).

Income, education, and occupation are some of the traditional measurements of socio-economic positions. These factors have a direct bearing on several areas of people's life such as life chances, rights to the city, and social mobility. Life chances is a sociological theory that suggests the likelihood of people improving their quality of life is dependent on the extent they have resources. Marx Weber's conceptualisation of life chances emphasised class status as a crucial factor for life chances (Cardoso, 2002). It argues that individuals with more material wealth and political affiliation have more life chances as opposed to those deprived of wealth.

The right to the city is a concept relative to transformative resilience. This is because at its epicentre, the right is concerned with people transforming themselves by transforming the city (Harvey, 2008). It is through this right that people in the city can advance their social conditions. Social mobility as defined by Robert (2009) as the movement of individuals from one social status to the other. Contrary to widely held belief, mobility in society does not imply progression but can also mean regression. Marti and Rinhard (1991) mention that social mobility can be upward, downwards, or even horizontal. To a certain degree, shocks trigger mobility and as Marti and Rinhard suggested, mobility may not be progression. This is similar to the outcome of resilience not entirely facilitating positive outcomes, and even within the socio-economic paradigm resilience can facilitate situations that disrupt positive social mobility, rights to the city, and life chances. These bring to light the idea that access to social

and economic opportunities that enable progression and upward mobility, are a socio-economic measure of well-being.

In a study by Horne, *et al.,* (2021) on housing inequalities and resilience, the authors investigated how individuals respond to transformation and adaptation caused by external shocks (Covid-19) and the provision of sudden national rules in Victoria, Australia and they discovered that existing socio-economic inequalities were exacerbated:

- Those who could only use public transport had an increased risk of exposure.
- Neighbourhoods with fewer or small scaled open spaces or poor-quality open spaces had more restrictions.
- People lost their jobs or had their working hours reduced, and this had implications for incomes. Subsequently, others saw increases in their income and had more security to respond to the pandemic.
- In most cases, there was no support from the state for those who were outside formal employment systems.
- Issues of power relations between tenants and property owners, and trust between banks and mortgagees.
- Concerns about contamination in high-density spaces from lifts and waste chutes were heightened.
- In lower densities inequalities of property spaces for gardening, working from home, and good orientation also emerged with heightened challenges to mental wellbeing.
- Those with children and without working space were challenged the most.
- Being under lockdown also affected eating patterns, food provisioning, and diets, partially due to reduced food trips and incomes.
- Staying at home also affected services bills and this was a burden for larger-sized families.
- Coping mechanisms were transformed by minimal face-to-face contact, lack of privacy in homes, exacerbated noise, and sensitivity.
- Digital exclusion due to over-reliance on technology for communication
- Women were more affected because they are primary caregivers in their homes (Prime, Browne, and Wade, 2020).

A similar study to that of Horne, *et al.,* (2021) is one by Song, Cao, Zhai, Gao, Wu, and Yang, (2021) in Changun, South Korea which also demonstrated similar findings as to the initial study, even though it was conducted in a different context. This goes to show that socio-economic implications brought forth by external shocks bear similar effects on well-being. As with socio-economic explanations of resilience revolving around access, Simon (2016)

equates well-being to access. That being the ability to access opportunities, facilitates, jobs, services, open spaces, public goods, transport, and technology.

4.5. Psycho-social measurements

Shocks have an impact on how individuals respond, and there are several counterpart influences on how people respond such as the environment and culture, as discussed prior. Psychologists like Freud have creatively explained that ignorance, adjustments, changes, and rearrangement of information are some of the ways in which the human mind deals with drastic events (Camfield & Allister, 2005).

Popular opinions on psychology and resilience see them as being concerned with pathology, vulnerability, and damage, however, these also imply strength and virtue (Seligman, 2000). Studies show that generally, well-being and subjective quality of life reports indicate positive levels of satisfaction from population groups whether their experiences were positive or negative (Camfield & Allister, 2005). This indication is linked to psychological explanations that are related to genetics, personality, and the subconscious state. Further explanations have to do with arguing that these mechanisms are a way in which people sustain their self-esteem or superiority while adapting and responding to changes. The views in which people sustain their resilience are explained in detail through concepts of 'focusing illusion, false consciousness, response shift, and the comparison gap' (*ibid*). From the discussions that will follow, it can then be argued that the extent to which participants are given the opportunity to contribute to a study's conclusions without the risk of misinterpreting their truths and valuable information can be used to measure psycho-social well-being.

Focus illusion, also known as the anchoring effect, is a concept that was worked on by Schkade and Kahneman (1998) to establish the difference between objective views and subjective views of a situation. His discussion concluded that people who observe a situation from outside with minimal knowledge often have an exaggerated understanding of how a situation is. This focus illusion affects how we understand experiences objectively especially experiences perceived as challenges such as disability and poverty. According to Camfield and Allister (2005), this view is a result of research bias, where they mention that external researchers are not adequately equipped to interpret or draw conclusions from the experiences of people, and that more often than not they use simplified measures, more especially within situations they are unfamiliar with.

False consciousness finds its roots in Marxist theories where vulnerable populations are misled by dominant ideas from institutional processes. This area has been a debating ground for the social sciences discipline where hegemonic ideas are in consensus that perceptions of those in compromised positions are easily swayed by mental conditioning or long-term

expectations, and the result is that people glorify their positions of compromise from the perspective of their mental state to endure shocks or shifts (Gramsci, 2010). In addition, an observation made by Camfield and Allister (2005) is that structures of power such as social, political, and cultural structures can serve as facilitators of false consciousness and for that reason, experiences do not entirely reflect the truth. Central to discourses of false consciousness is the debate between agency and structure, where arguments revolve around if individuals act as free agents or are dictated by structures.

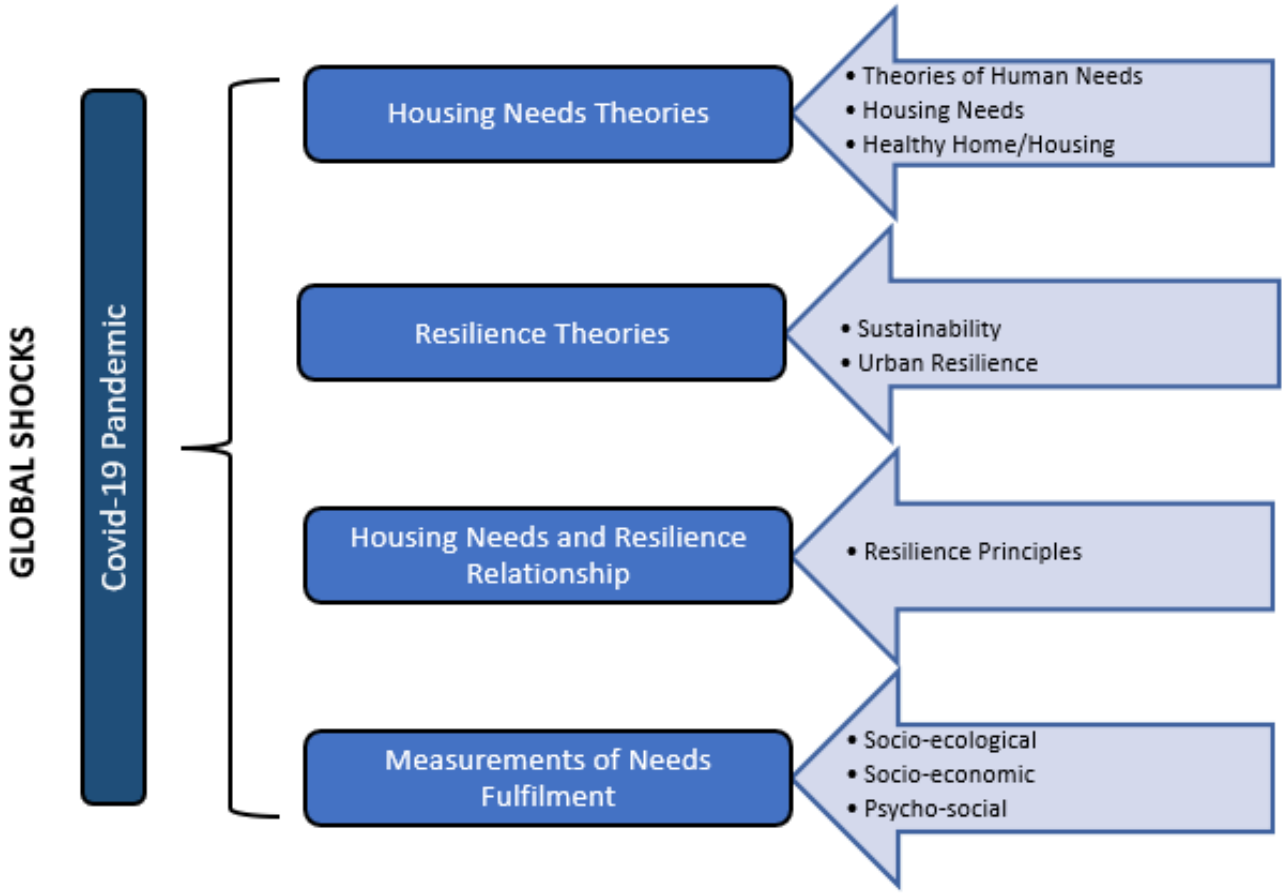
Response shift commonly known as adaptive preference is similar to false consciousness but from a more psychological dimension. It refers to a situation where respondents define notions of well-being in a study based on their best relative understanding and not necessarily what the research intended to find out, this implies that they respond to issues based on what they consider to be of value (Broome, 1993). Schwartz and Sprangers (1999) identify three processes that underpin response shift, those being internal standards, change of values, and reconceptualization of what quality of life means (Camfield & Allister, 2005). Another observation on response shift is by Gilbert, *et al.,* (1998) who mention that the state of being sad is short-lived and that people regress to being happy as they adapt to a situation. A relative phenomenon to response shift is social comparison (Festinger, 1954), where people justify their experience as positive by comparing it to what other people in worse conditions experience. This brings forth a comparison gap as explained by Camfield and Allister (2005) as the inequality of perceptions, in which states of comparison ascend over-time and breed inequalities.

Conclusion

This chapter has comprehensively discussed theories that underpin global shocks for the field of urban studies, particularly for the housing sector. These theories are the theories of needs and that of resilience. Overall, with theories of needs it is emphasised that defining and addressing human needs especially in relation to housing is complex and considers several factors such as culture, societies, and the economy. On the other hand, discussions on resilience theories emphasise that resilience is a way of thinking that in the process has to accommodate human needs. It further highlights the need to incorporate soft dimensions, beyond infrastructure, into resilience thinking such as humanitarian aid. The relationship between the two theories is seen within principles of resilience thinking, where needs can be fulfilled through density, diversity, mix, pedestrian-friendly design, transit-supportive infrastructure, integrated natural and technical systems, local sources, community engagement, redundancy in critical infrastructure, and resilient operations. What concludes the chapter is the discussion of well-being as a qualitative measurement of needs fulfilment.

The measurements discussed do not only encompass physical aspects but psychological and social aspects.

Figure 1: Conceptual Framework for the Study



Source: Author

CHAPTER 3. THE BROADER HOUSING CONTEXT IN SOUTH AFRICA AND THE CASE STUDY CONTEXT

Introduction

Housing is recognised globally as a basic human necessity and the lack of it is one of the indicators of poverty extent (South African Human Rights Commission, 2012). Like many other elements that constitute social crises and unrest, housing is a wicked problem that stirs welfare initiatives by the government, especially for the poor. Its categorisation as a wicked problem stems from the persistence of this challenge despite the many commitments to address it (Rittel and Webber, 1973). This chapter will discuss housing policies that provide successive measures for South Africans to access low-cost housing. Within the discussions, the housing needs that the policies aim at addressing will be highlighted. Furthermore, the chapter will introduce the case study context of Palm Ridge.

1. Housing Related Regulations Under the Covid -19 Pandemic

For South Africa, a Risk Adjusted Strategy was implemented to respond to the pandemic. The strategy had 5 Alerted Levels, each with specific regulations, where Alert Level 5 was a full lockdown and Alert Level 1 had eased restrictions. Under a full lockdown alert, residence evictions were prohibited following cases where vulnerable people who were renting in formal and informal residences were evicted or displaced through court orders (Socio-economic Rights Institute, 2020). This brought forth the Disaster Management Act moratorium on evictions under Alert level 3-5, that even without a court order, evictions were prohibited (*ibid*). Evictions are not a resilient measure, especially where there are no hazards, moreover, they left people homeless and disregarded the housing need for safety and security of tenure.

In Addition to evictions, there were unlawful measures by landlords to evict tenants for rent arrears through services disconnections such as water and electricity. The lack of water during a pandemic was a threat to the livelihood of residents. Under severe circumstances, landlords would intimidate tenants by removing locks, doors, and windows. Although no regulation was put in place to prevent these, these injustices were advocated for by Society Based Organisations and Private Legal Authorities. (Socio-economic Rights Institute, 2020). Measures of service disconnections by landlords are contrary to what is believed to be attributes of healthy housing or general housing needs. Needs of physical security from a house, adequate protective housing, and adequate water were not met under a circumstance where these were most important.

A notable regulation by the government regarding access to water was regulation 6.2 of Alert 5 regulations which required that municipalities expand the provision of water to informal settlements (Co-operative Governance and Traditional Affairs Department, 2021). This was

done alongside a de-densification programme for informal settlements. The de-densification programme in some cases, entailed the temporary relocation of informal settlement dwellers (*ibid*). This programme was then criticised for contributing to evictions, insecurity of tenure, and the disruption of livelihoods and social networks (Socio-economic Rights Institute, 2020). This also exacerbates the nonfulfillment of housing needs, and possible mitigation. It also gives an example of resilience measures not producing desirable outcomes.

These realities of housing challenges during the pandemic have fuelled the housing crisis and inspired various efforts from the Human Settlements Department together with the Department of Water and Sanitation. Although during the pandemic era the National Department of Human Settlements was expected to speed up housing provision for the 2.2 million households still residing in informal settlements with decent shelter in the 2020-2021 financial year, this was put to a halt (Department of Human Settlements,2021). This halt was a result of poor financial resources and the lack of well-located land which were worsened by the pandemic.

2. Housing Legislature and Policies - their key takeaways on housing needs.

2.1. The South African Constitution

The constitution of South Africa, which in its inception was influenced by international human rights instruments (Tissington, 2011), acknowledges access to adequate housing as a constitutional mandate according to section 26 (Republic of South Africa, 1994). It tasks the government to develop frameworks that realise this right, with an emphasis on "access to adequate housing" instead of direct provision (Manomano, *et al*., 2016). Dominant discourses emphasise tenure, protection, amenities, space, and appropriate locations among others as determinants of adequate housing. Key legal cases such as Jahfta v Schoeman and Grootboom highlight the government's responsibility in realising their housing rights in an enabling environment (Tomlison, 2011). Important key takeaways for study, are the concepts of access and adequacy. These two concepts stand out in both housing needs and resilience theories, which goes to show that they are fundamental to housing and can further be argued to be standard measures of housing requirements.

2.2. Breaking New Ground 2004

The Breaking New Ground (BNG) is a five-year strategy concerned with improving housing delivery. The paper has a comprehensive focus on sustainable human settlements through the delivery of diverse and integrated housing options (Pitthouse, 2009). According to the policy, what constitutes sustainable human settlements is the quality of housing, its size and design, and choice - which speaks to aspects such as convenient location and security of tenure. What is different about the initiatives in achieving sustainable human settlements is the emphasis on densification and integration for economic purposes. Where low-income

groups can generate income through their properties, introduce fiscal incentives that will facilitate densification, and

discourage sprawl. The generation of income through properties plays a role in improving socio-economic well-being of low-income groups. An interesting correlation from this policy is that what is needed for complete sustainable human settlements aligns with the shared principles of resilience and sustainability such as diversity, density, and mix. Although density is a principle of resilience, in the case of pandemics, the applied principle can cause more harm than good, hence a de-densification programme was implemented for informal settlements during the pandemic.

2.3. National Development Plan 2013

The South African government founded the National Development Plan as a strategic blueprint aimed at 'eliminating poverty and reducing inequality by the year 2030' (National Planning Commission, 2011, p.14). The National Development Plan demonstrates a strong alignment with local policies such as the BNG, where critical dimensions of poverty are iterated to be income, human capital, and assets, and housing is perceived as a primary element that contributes to the alleviation of asset poverty. Fundamental discussions on housing and human settlements is that, these should address social and economic inequalities by prioritising housing needs of the most vulnerable populations in the country - people living with disabilities, child-headed households (orphans and vulnerable children), old age, and other populations regarded as vulnerable. The National Development Plan recognises a set of spatial principles in reducing inequalities. Thes principles are spatial justice, sustainability, resilience, quality, and efficiency. The principle of spatial justice speaks to the location of housing to social, economic, and infrastructural opportunities. Proximity to opportunities is crucial, especially under regulatory restrictions that prohibited travelling and included curfews.

2.4. The Neighbourhood Planning and Design Guidelines 2019

The document provides comprehensive guidelines for integrated settlement design and planning with an emphasis on the inclusion of various services and infrastructure into neighbourhood development projects. The guidelines in this document support the development of sustainable human settlements. For the purpose of this study, the guidelines outlined emphasise the requirements for resilience and housing needs as discussed in literature. The guidelines focused on are for Neighbourhood Layout and Structure, Housing and Social Facilities, and Transportation and Road Transport.

1. Neighbourhood layout and structure guidelines

The neighbourhood layout and structure guidelines' output is to ensure that there is integration in the components that constitute a functional neighbourhood. These components are open

spaces, social facilities, housing, and transport among others, and their position into the larger settlement. The local regulatory environment to which the universal considerations are applied includes SPLUMA (Spatial Planning and Land Use Management Act of 2012), NEMA (National Environment Management Act of 1998), NHRA (National Heritage Resources Act of 1999), and other policies. Principles that anchor universal standards include:

- 'Integration and connectivity
- Inclusivity
- Convenience
- Resilience and adaptability
- Efficiency
- Safety and health
- Economic opportunities
- Aesthetics and character' (Department of Human Settlements, 2019. Section 7: 7)

Planning considerations are concerned with layouts, demarcations, and land uses; and the levels of service and infrastructure provision for these. When developing layouts, characteristics of the envisaged development and those of the existing environment should be assessed. From the assessment, an appropriate layout and structure can be selected.
Design considerations on the one hand are concerned with the assertion of different components within a neighbourhood to bring about a sense of place. These components are on a more detailed scale of neighbourhood and are concerned with:

- 'Streets
- Blocks and subdivision of plots
- Engineering infrastructure
- Social facilities
- Land use
- Public open space
- Neighbourhood identity' (Department of Human Settlements, 2019. Section 7: 36)

2. Housing and Social Facilities

The housing and facilities guidelines are intended to guide decisions made in the delivery of various types of housing and social facilities. Housing is the dominant form of land use in cities and contributes to the quality experience in a neighbourhood. In that regard, facilities as part and parcel of housing enhance the function and experience within a neighbourhood.

The universal considerations of housing provision are governed by housing legislation such as the Housing act of 1997. Subsequently, the social facilities by departmental legislation such

as the South African Schools Act of 1996. The construction of these adheres to the South African National Building Regulations and Building Standards Act of 1977 (SANS10400) and other relevant local government by-laws. These developments can either be green fields (on undeveloped land) or brown fields (with existing developments) within rural, peri-urban, or urban settings. The approaches permitted by the legislation are those that are incremental, meaning that housing projects are divided and delivered in phases. They are people-centred, where members of the community are actively engaged in the entire process of housing delivery. Furthermore, they are flexible enough to accommodate repurposing and retrofitting, where housing and facilities can be provided for in buildings they were not initially purposed for.

The planning considerations are concerned with deciding on the most appropriate type of facility or housing after carefully considering all implications of the contexts. This implies looking at the characteristics of the environment such as the physical location, available infrastructure, socio-economic features, and so on. This is followed by planning considerations which focus on the housing options appropriate to the existing characteristics like density, a mix of types, tenure, size and shape, and typology. Social facilities include capacity, population size, cumulative demand, and priorities. For example, a police station would be provided for a population threshold that is between 10 000- 60 000 people depending on crime rates at an accessible distance of less than 8 km in an urban area.

The design considerations are concerned with how housing and facilities relate to the streets and layout of a settlement. This resonates with the development of mixed neighbourhoods with medium housing densities, buildings defining the street, allowing for space in a plot, and clustered facilities for user convenience.

3. **Transportation and Road Pavements**

The guidelines provided in this section are focused on providing access and mobility in a neighbourhood for a variety of transport modes both motorised and non-motorised. The universal considerations are those in line with the legislature, plans, policies, and frameworks directed to transportation from all spheres of government. Including guidelines, manuals, and standards within the sector. These advocate for transportation infrastructure:

- ‘Improve access and mobility for all users.
- Enhance the safety and security of all users.
- Minimise negative impacts on the environment.
- Support economic activities.
- Respond to the needs of all users.

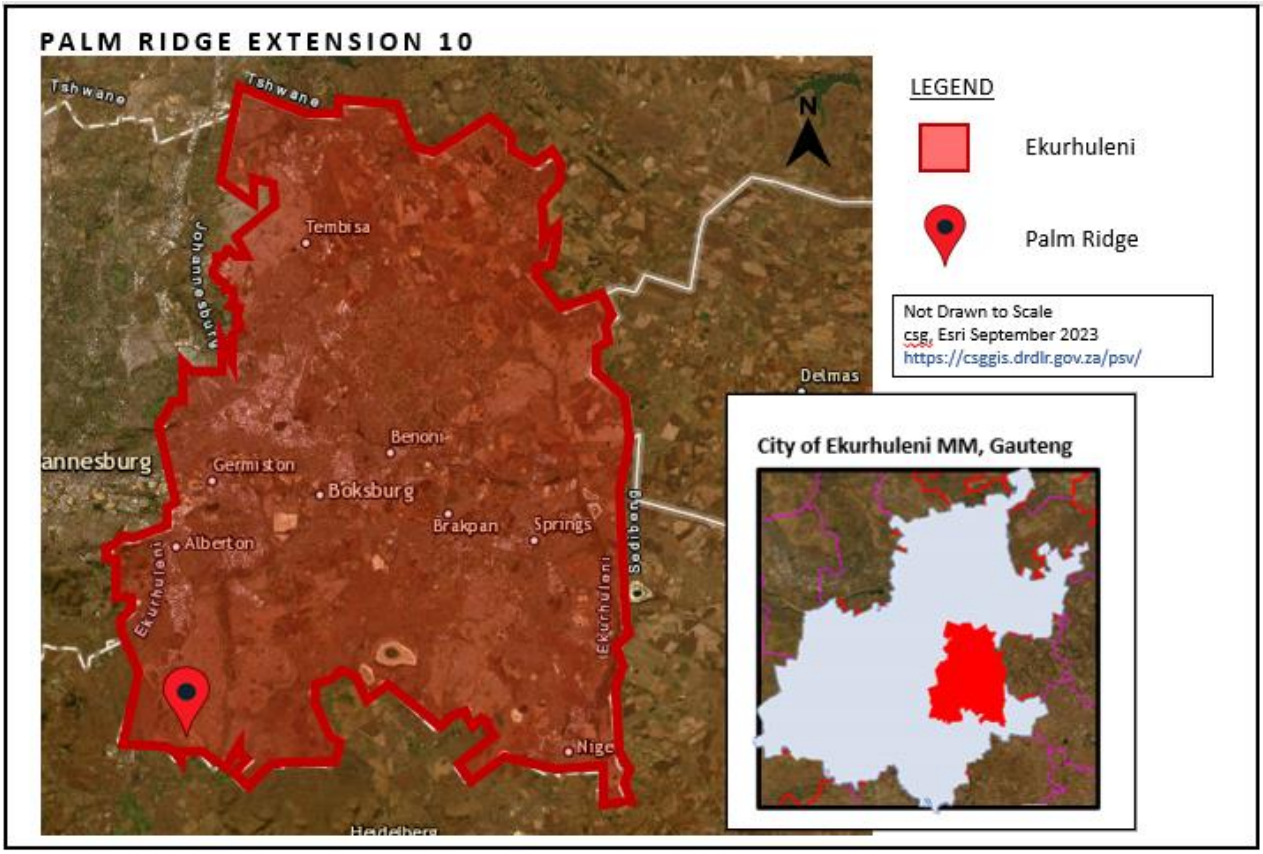
- Be reliable and of an acceptable quality' (Department of Human Settlements, 2019. Section I: 8)

The implementation of these is through clearly defined road and street systems, managing the demand for transport, and orienting development to allow transport efficiency and motorised transport. As with planning considerations on other development areas within the Neighbourhood Design Guidelines on transportation and road pavements planning considerations are subject to characteristics of the proposed development, the environment, and available infrastructure options. Lastly, the design considerations are concerned with the geometric design and road pavement design guidelines pertaining to infrastructure for different modes of transportation.

3. Study Site Context

Vanderstoep and Johnson (2009) mention that in describing a study context, it is important to include the social, economic, cultural, geographical, or historical setting of the context. This is done to familiarise the reader with the realities of where the case study takes place. The locational context is within the jurisdiction of the City of Ekurhuleni Metropolitan Municipality, which is situated in the Eastern part of Gauteng, South Africa.

Map 1: Locational Context of Palm Ridge in Ekurhuleni



Source: Author

The municipality is made up of 9 towns and 17 townships which accommodate an estimated two million inhabitants (City of Ekurhuleni, 2021). Unlike many large cities in South Africa that matured around city centres, the City of Ekurhuleni is a product of merged administrative systems without an urban core. The city, however, has distributed high populations in different areas which are linked by corridors (Thami Manyele corridor, Thelle Mogoerane Corridor, and Eastern Development Corridor) and land use nodes (small scale animal farms, agriculture and agro-processing, residential, light services industries, and larger commercial activities) (*ibid*).

The city's demographics indicate that there is predominantly a young population which in the overall population, the African population constitutes 82%, followed by the white population at 14%, the coloured population at 3%, and lastly Indian and Asian populations at 2% (City of Ekurhuleni, 2021). Isizulu is the commonly used language followed by Sepedi, Sesotho, and English. A 2016 household survey for the city shows that 18.7% of households live in informal houses, 52% in fully paid-off properties, 22% from privately rented properties, and 11% rent from the government (*ibid*).

According to the City's Integrated Development Plan in the year 2018, the city's Human Development Index was 0.709 compared to that of the entire province at 0.719. This translates to above-average human development in the city constituting to healthy life, knowledge, and a decent standard of living. People living in poverty have decreased between 2008 and 2018 which indicates a decrease in people living below the poverty line defined as the level at which people can afford to buy enough food and other items without compromising others (City of Ekurhuleni, 2021; Department of Cooperative Governance and Traditional Affairs, 2021). The city's Quality of life index is measured in both objective and subjective terms and shows that there is continuous improvement in the QoL.

The Gauteng Department of Human Settlements and the City of Ekurhuleni have established human settlements projects in extensions 9, 10, and 12 of Palm Ridge for the development of Government subsidy housing known as BNG housing (City of Ekurhuleni, 2022). These are government housing allocated to low-income households, which they fully own as beneficiaries, and are also a measure for informal settlement eradication. The criterion for which applicants qualify for this type of housing considers:

- South African Citizens,
- Above the age of 21 and mentally sound to sign a contract,
- Who have not benefited from a government subsidy before,
- Are married, with a partner, or/and dependents,
- An elderly, disabled, or military veteran,

- Combined household income less than R3 500.

(Department of Human Settlements, 2021; LIPCO, (undated)).

Image 1: Palm Ridge Subsidized Housing



Source: Temi Construction https://temi.co.za/projects/palm-ridge-housing-project/, accessed 07 August 2022.

The process of applying for government subsidy housing is done with the provincial department of housing or the municipal offices with identity documents, birth certificates of dependents, and proof of income (LIPCO, undated). Being allocated a house is not a smooth process and may take years due to the waiting list caused by a high demand for housing, however, when allocation is ready the applicants are contacted. Since this form of housing entails ownership, beneficiaries are only allowed to sell these houses after a minimum of 8 years, when they become full owners of their properties. In this case, after 8 years the preferred primary buyer of the property is the government, but it can also be sold to an external buyer with written consent from the Department (*ibid*).

The Palm Ridge project began in March 2019 and was fully completed by October 2020. The project was completed within 19 months and a total of 650 houses were constructed. The size

of these houses is 40m^2 with two bedrooms, a bathroom, a lounge, and an open-plan kitchen. Moreover, the units are supplied with a solar geyser and have access to municipal services such as water and sanitation, solid waste, and electricity. (TEMI Constructions, (undated))

Image 2: Standard RDP/BNG Housing Plan



Source: https://zionstar.net/rdp-measurements-plan-modern-house/ [accessed: 07 August 2022]

Conclusion

The restrictions during the pandemic have brough forth moratorium of several legislations for different government sectors through the Disaster Management Act. The amendments in the housing sector made apparent some of the housing needs that are relevant for pandemics such as de-densification, access to quality housing, and access to clean water. These needs were already highlighted in some existing housing policies and legislation prior the pandemic such as the Breaking New Ground and Neighbourhood Design Guidelines. These among others are needs that also address social and economic inequalities.

Palm Ridge is utilised as a case study that will assist us in understanding and exploring some of the fundamental housing needs that entail coping and mitigation throughout pandemics. Study context information to familiarise the reader with the case study area was discussed in this chapter. The next chapter will explain the research methodology of this study and field work.

CHAPTER 4. DEFINING AN APPROPRIATE RESEARCH APPROACH

Introduction

A critical component that gives a research study substance is the methodology and methods followed in collecting data (Vanderstoep and Johnston, 2009). As mentioned in the introductory section, this study seeks to understand issues linked to global shocks from a paradigm that is less quantitative and spatially confined. This entails a shift toward more qualitative and descriptive understandings of housing needs, resilience, and overall well-being. To provide empirical support to the concepts of the study, a qualitative research methodology was adopted to gain a rich, in-depth, narrative description inquiry into what constitutes housing needs in the era of global shocks.

This chapter will present and validate the study design selected as appropriate for this dissertation and the design will subsequently be used to collect and analyse data for the study. It will do so by discussing components of the research design and its limitations. It is through these techniques that valid conclusions to the study can be drawn, and further recommendations made.

Research Design

A research design is a research plan that is inclusive of methods, types of data, and techniques that apply to a study (Lapan, Quartaroli, and Riemer, 2012). This study followed a case study research design which Yin (1994) defines as an investigative design that enables research to be based on real-life events. This is a similar definition to Sarantakos's (2005) that a case study design is an empirical inquiry of real-life context. Its relevance is in alignment with the study's research question, as Lapan, *et al*., (2012) mention that case study research questions often start with 'how' or 'why'. This is the case with this study's research question.

Palm Ridge extension 10 was chosen as the case study after consultations with housing officials and conducting document research. This choice was based on its suitability as a case study, primarily because it involved the allocation of BNG houses during the pandemic, making it a more feasible case to address the study's objectives compared to other potential case studies. Lapan, *et al*., (2012) mention that cases are integrated systems that can be either specific or complex, and this is the case with neighbourhoods and settlements since they are identified as complex systems. Another crucial point that Lapan, *et a*l., (2012) mention is that since issues within complex systems can often be difficult to define, case studies provide clear limits and boundaries for the study.

A single-instrument case study is used in this research due to time constraints. This type of case refers to the use of an individual case to reflect issues that are described in a study

(Creswell, 2009; Lapan, *et al*., 2012). For these reasons it can also be concluded that this study is more of a descriptive case study. Overall, the case study research design was selected in alignment to the research questions and to provide clear boundaries for the study.

1. Research Philosophy

In alignment with the selected research design, an interpretive/constructivist philosophy was more relevant to this study. The interpretive/constructivist philosophy seeks to understand phenomena subjective to those who experience it (Wagner, Kawulich, and Garner, 2012). Considering that the study aims to understand housing needs and resilience concepts during the pandemic from stakeholders' perspectives, an interpretive approach provides grounds to achieve that. To give this approach reference, Wilhelm Dilthey's philosophy of hermeneutics, which is the study of interpretation, was most significant for this study. This philosophy speaks to the interpretation of value and meaning that participants associate with their experiences.

An interpretive paradigm assumes that reality is a social construct, is multi-dimensional, and is dependent on a person's mind (Wagner, *et al*., 2012. This paradigm argues that reality is subject to individuals, space, time, and context, thus, cannot be generalised as a uniform reality. Secondly, this approach assumes that knowledge about reality is also subjective. The methods employed within interpretive paradigm are open-ended and descriptive (Creswell, 2009). This implies that the researcher will not only describe the participant's experience but also attempt to interpret the experience when analysing. The method useful in interpreting the study's findings was the coding method since the data collected was nominal and could not be quantified.

2. Research Type

A selected research type for a study has an impact on how a study is concluded. Mouton (1996) classifies research types as types of scientific reasoning, that being deductive, inductive, and reproductive reasoning.

This study adopts a deductive reasoning approach, which can be defined as an approach where conclusions are drawn from progressive general information (Mouton, 1996). It was reasonable to adopt this approach because the purpose of this study is descriptive in nature and requires substantive literature to support findings. Wagner, *et al.*, (2012) mention that descriptive research addresses the 'how' and 'who' questions. As a result, this type of research is relevant for this study since the main research question speaks to how the pandemic has affected the perceived housing needs of stakeholders' perspectives. Although there are standard descriptions of housing needs, this study is sensitive to the time horizon and seeks to understand what constitutes housing needs in the era of pandemics at a metropolitan level.

This aligns with Doyal and Gough's (1991) hypothesis of needs which goes beyond the conventional understanding of "basic needs".

3. Time Horizon

As it is already outlined that the study adopts a case study design, this was done cross-sectionally. A cross-sectional case study design implies is that the data for the research was collected at one point in time without awaiting longitudinal results (Vanderstoep and Johnson, 2009). The researcher purposefully collected data on the field for a month and did not await longitudinal results because the study was not concerned with not concerned with causal or relational meanings, but rather describing the experiences/perspectives of participants. In addition, practical constrains also contribute to this time horizon selection. The study had to be completed within a year and time pressures of the degree allow for this time-horizon.

4. Sampling Strategy

This study adopted a non-probability sampling strategy, namely, purposive sampling. This is a sampling strategy where participants are selected based on a specific criterion that relates to the study's objectives (Vanderstoep and Johnson, 2009). The researcher selected this technique to ensure diversity in perspectives. Two distinct groups of participants were selected, the first consisted of Palm Ridge residents and second, municipal officials.

A criterion used to select the first group of participants was that they had to be 1) residents of Palm Ridge, 2) must be residing in government provided housing, 3) be older than 18 years, and 4) have resided in Palm Ridge extension 10 since 2020. A total of 18 Participants were sampled as participants of the study and among the 18, 2 were community leaders. This unit of analysis made sense given the time and financial constraints, the researcher had to select a manageable sample size with minimal delay. In approaching the participants, the researcher spent the first week on observations within the study field and approached a nearby street trader to purchase their perishable goods and in the process engaged in a casual conversation to obtain information on the community leader. The researcher then approached the community leader to detail the study being conducted, the leader agreed to notify the community about the research during a scheduled community meeting. This allowed the researcher to begin door to door visitations to select and engage with participants who met the sampling criteria. The tables below give general information about the sample studied. Participation registers were given to participants and these disclosed information about gender, age, and type of housing among others.

Table 1: General Information about Unit of Analysis

Age Range	Gender		Total by age
	Male	Female	
20-29 years	0	1	1
30-39 years	2	1	3
40-49 years	5	0	5
50-59 years	1	3	4
60- 69 years	1	4	5
Total by Gender	9	9	18

The register shows that 9 females and 9 males from Palm Ridge extension 10 were interviewed. Out of the male participants, two were between the ages of 30-39, five were between 40-49 years, one was between 50-59 years, and one other between 60-69 years. With females, one participant is between the ages of 20-21 years old, one other between the ages of 30-39, three between the ages of 50-59, and four between 60-69. The languages spoken by participants were Sesotho, Afrikaans, IsiXhosa, and Isizulu.

It also shows that 13 of the houses were subsidised through the Breaking New Ground (BNG) and 5 through Military Veterans. A Military Veteran is recognised by the Military Veterans Act as an individual who meets a specified criteria related to their military service being:

1) Those who served in the military during South Africa's liberation struggle from 1960 to 1993.
2) Those who served in the Union Defence Force prior 1961.
3) Those who joined the South African National Defence Force after 1994

For these criteria specifications the veteran had to have completed their military training or duties and have not been dishonourably discharged from duties. (Department of Military Veterans, 2022)

The Military Veterans Benefits Regulations of 2014 highlights several benefits for military veterans including housing benefit. The housing benefit can be the allocation of housing or mortgage repayments. As with the Breaking New Ground housing, the Military Veteran Housing Benefit of a total value not exceeding R175 000 has a qualifying criterion which is:

1) The beneficiary should be unemployed and receives pension form the government.
2) If employed, has an income of R125 000 per annum.
3) Does not own a house, has not received housing benefit from the state,
4) If in a spousal relationship, the spouse should have also not have received housing benefit from the state. (Department of Military Veterans, 2022)

Table 2: Types of State Housing Sampled

Type of State Provided Housing Sampled	**15** BNG Housing	**3** Military Veterans

The second group of participant's selection criteria was on the basis that they were municipal officials who are involved in either planning, implementing housing projects, and allocation of housing during the pandemic. A total of 3 municipal officials were interviewed, making up a total of 21 participants. The officials were approached after permission to proceed with the research study by the city intelligence department was granted. The researcher approached the department reception for referral to the relevant officials, approached the officials and scheduled meetings.

Given the time pressures of the degree and that the study is qualitative, a smaller sample was more appropriate for gaining in-depth insights. Overall, the participants had to be able to provide valuable insights into the changes in housing needs and interventions before and during the Covid-19 Pandemic.

5. Data Collection Method

Methods of collecting data qualitatively can be through observations, interviews, or text analysis (spoken, visual, written, artifacts, cultural) (Vanderstoep and Johnson, 2009; Lepan, *et al*., 2012). Considering that the study is qualitative and seeks to obtain a substantial amount of information on contemporary housing needs, the study's data was primarily collected through semi-structured interviews. Wagner, *et al.,* (2012) define interviews as a two-way purposive conversation where the researcher will ask participants questions that will be converted into data. The structure of the interviews allowed participants to engage freely and the researcher to probe information.

Two sets of interview guides were prepared for the two different samples (residents and officials) of the study. The guide provided a basic structure to which the questions that the researcher would ask participants would be organised. The interview guide questions were based on the research problem, questions, gap, and literature (**See table 3 below for summary**). The questions administered to residents of Palm Ridge were general (icebreaking and getting the participant to be comfortable), housing-related questions (participants expressed their ideas and views on their properties), locality questions (participants expressed their views and ideas on the areas that surround their properties), and Covid related questions (their coping mechanisms during the pandemic with regards to their properties). The interviews were

conducted individually per participant at the comfort of their homes and lasted for approximately 30 minutes.

Questions administered to the housing official probed their field of work and changes in practice. Two interviews were conducted with officials in their offices and lasted for approximately 45 minutes. One interview was conducted with an official enroute to a site they were working on since they were hardly in the office at that time. Although the interview guides had a specific order of questions, the researcher was able to flexibly navigate the questions to allow the participant to be free to answer.

Table 3: Summary of the study's main introductory information

Problem and Gap	The main problem is that there's a methodological gap in the existing literature and research related to housing provision and resilience thinking during the pandemic era. Specifically, the literature predominantly focuses on the physical aspects of housing needs and urban spatial resilience, neglecting the softer dimensions of resilience thinking, such as stakeholders' perspectives and views.
Questions	How has the Covid-19 pandemic affected stakeholders' perceptions of housing needs, and what do these perceptions mean for existing housing interventions? • What has changed in stakeholders' perceptions of housing needs during the Covid-19 pandemic as compared to their pre-pandemic perceptions? • How have stakeholders catered to these revised perceptions of housing needs during this pandemic period and as it progresses? • In what ways do these revised perceptions of housing needs and actions taken in response to them, facilitate resilience interventions against future shocks such as pandemics?
Literature	1. Theories that inform housing needs 2. Understanding theories of resilience 3. The relationship between housing needs and resilience theories 4. Measurements of needs fulfilment

Source: Author

In collecting data and engaging with participants, ethical considerations were prioritised. This was done through gatekeeping measures with the City of Ekurhuleni Municipality where the City's Intelligence Unit was contacted to provide permission to the municipality's housing department. After access to the study sites was permitted, participants that were approached were offered information letters that detailed what the study was about. To ensure trustworthiness, the researcher further presented the student card. If participants agreed to be interviewed, they had to sign the informed consent and interviews would proceed. These were recorded so that they could be transcribed, and valuable information noted.

The secondary method of data collection was through an unstructured observation. This method is defined by Wagner, *et al*., (2012) as a method to observe and describe the

behaviour of the participants. This went beyond observing the participants but also their surrounding so that other relational questions can be asked to the interviewee. For example, one of the participants had a closed kitchen business on their property, and thus questions about the closed business would be asked. Other methods included a projective technique, where participants' thoughts were probed/stimulated in situations where the participant was not aware of their feelings or thoughts (*ibid*). At times, this technique was useful in cases where the participant did not understand the question or could not straightforwardly express their ideas.

6. Data Analysis

Data analysis can be described as a process of simplifying and transforming data, presenting data, and concluding and verifying data (Wagner, *et al*., 2012). There are several ways in which qualitative data can be analysed such as narrative, discourse, thematic, intuitive, and phenomenological among others (Wertz, Charmaz, McMullen, Josselson, Anderson, and McSpadden, 2011).

Since this study is embedded in a social inquiry and data collected through interviews, an interpretative phenomenological analysis (IPA) with elements of thematic analysis will be adopted. This is a type of phenomenological analysis that Wagner, *et al*., (2012:239) define as 'idiographic, inductive, and interrogative' and stems from the psychology field. Moreover, it is concerned with understanding and making sense of lived experiences in detail from both the perspective of the participant and researcher (*ibid*). Creswell (2007) mentions that this method is applicable when a study does not have a hypothesis, and this is the case with this study since it aims to understand a phenomenon of needs in intervention measures. IPA begins by analysing the texts followed by the reflection and interpretation of the text. How this analysis is defined aligns with the type of research this study adopts and the anticipated outcomes of the study.

The thematic method of analysis is the next step in IPA analysis. During analysis of data, convergent and divergent themes will be identified, those that relate to participants' perspectives and literature. IPA approach also reflects the adopted philosophical underpinning of the study, that being interpretative/hermeneutic tradition. Another quality of IPA is its inquisitive nature that emphasises the adoption of case study designs (Wagner, *et al*., 2012) as it is with this study and the adoption of a single instrument case study of Palm Ridge. Smith (2004) mentions that IPA is more valuable in gaining insight into how participants make sense of their experiences on events and how these influence the decisions they make. It allows the researcher to recognise all aspects of the data such as the tone and mood of participants when reflecting on the data.

The procedures followed in thematically analysing the data will be adopted from Kawulich and Holland in Wagner, *et al*., (2012) and the software that will be used is Microsoft Word. With the assistance of a translator, the interviews were translated into English and transcribed through reading aloud the texts to words for efficient translation. The actual analysis process starts after the interviews have been transcribed. The first step involves individually going through the interview transcripts more than once so that the researcher becomes more familiar with the data and can identify units of analysis; it could be words, phrases, or sentences. The second step is to establish codes using different highlight colours on units of analysis. This is followed by noting what the assorted colours mean on a separate sheet. The same applies to other transcribed interviews where new and old data will be compared and labelled, and simultaneously note and define new emerging codes. This exercise assists in the creation of a coding scheme that is valuable in identifying patterns in the data. The procedure is commonly known as the Constant Comparative Method because organised categories are created as data is compared with previously collected data. Similar coded units of analysis are grouped for meanings and themes are established.

Limitations of the Study

Literature on research methodologies emphasise that all research that has ever been conducted is flawed and has limitations (Walliman, 2011; Wertz, *et al*., 2011). However, the researcher needs to be aware of these limitations and establish strategies on how they can be mitigated (*ibid*).

The overarching limitation of the study was the period in which this study had to be conducted, this brought forth several implications to the study such as the necessary longitudinal observations and having a larger unit of analysis. Nonetheless, having a fixated period for the study made planning for the data collection more direct, and assisted with drawing limits for the study. Secondly, qualitative methodologies are prone to biases and value-laden presumptions regarding data finding and interpretation approaches due to their subjective nature. In this case, the researcher, although may exercise subjective judgment during data collection processes, was aware of the researcher's position. With this study, the researcher had no relationship, closeness, or history with the case study, and this awareness limited presumptions and biases.

Other limitations included language barriers during interviews and transcribing, lack of interest from participants, and not accessing a more feasible case study. The context where interviews were conducted is diversified and the researcher only knew a few of the native languages. Some participants understood the questions better when asked using their mother tongue instead of English. The researcher had to have people who could interpret to the participants

on site so that dialogue can be efficient. What also became a challenge was data saturation. The researcher intended to conduct 20 interviews with residents of Palm Ridge but on the 15th interview, data became more saturated. Participants' responses did not produce new information and the researcher felt that the nature of the research questions had allowed sufficient data to be gathered to respond to the research question. Although the set number of interviews conducted was narrowed down to 18 due to saturation, this validates that the study has adequately sampled the context.

Where participants seemed to not be interested or in a rush, the researcher had limited time to probe participants. However, the researcher had to interview without a guide to get the most valuable information from participants. Another strategy included beginning with the most important questions from the interview guide. An ideal case study would be one with integrated housing developments or rather two different cases to assist in obtaining more rich information about housing delivery. However, due to time constraints, the most feasible cases were in the initial phases of construction, subsequently, exploring two case studies would need a longer period. Despite this limitation, the diversity of the community in Palm Ridge in terms of culture, background, and ethnicity among others allowed for the study having valuable information, which will be discussed in detail in the next chapter.

Conclusion

Given that the research problem is centred on the negligence of softer dimensions on concepts of resilience and housing needs such as perspectives and views. This study adopts a qualitative methodology and interviews as research instruments to access the most descriptive and rich information about the study. The Palm Ridge case has allowed for the study to select the most appropriate sample, techniques, and methods, which supported the study's deductive reasoning approaches and philosophical underpinning. Although the study was not short of limitations, the researcher was aware of the limitations and established strategies to mitigate them.

CHAPTER 5. PRESENTATION AND ANALYSIS OF RESULTS

Introduction

The methods used to collect data for this study allowed for the perceptions and experiences of participants to be explored. They also permitted the identification of what participants claim are housing needs and how these are satisfied. In this chapter main findings from the interviews will be presented and subsequently discussed in relation to the research questions, literature, and policy context. In the interview, questions asked were directed to the subject property and its surroundings to assess what forms the basis of housing necessities.

The chapter presents two themes of significance to theoretical housing needs that are emphasised by the study's findings. This will assist in making apparent the housing needs that are necessary for the mitigation and recovery from global shocks such as pandemics.

1. Presenting and Analysing Key Results

1.1. Technical Housing Needs

From discussions on technical requirements of healthy homes and housing, to spatial requirements for resilience. This section presents findings that collectively speak to needs that contribute to the overall quality of housing as a structure and as part of a larger settlement.

Adequate Housing, Quality Housing, Size, and Density

The data collected on opinions about properties revealed that there are mixed feelings that participants expressed about their houses that indicated adequacy and inadequacy concurrently. Where adequacy and inadequacy are subjective to satisfaction. This corroborates Camfield and Allister's (2005) view that general issues of subjective well-being are predominantly met with positive levels of satisfaction regardless of experiences being negative or positive. All participants mentioned that they are grateful for a roof over their heads especially during the pandemic where having a safe and comfortable home was paramount. Participants alluded that they are no longer paying rent, this emphasises the degree of security of tenure the houses provided when they could have been victim to evictions and services cuts in their former rentals. Nonetheless, the properties have presented new challenges in their lives such as having to regularly maintain the property due to its building material standards. Literature on healthy housing emphasises quality materials and maintenance as some of the principles relating to healthy housing (National Centre for Healthy Housing, 2022). The city officials highlighted that when houses have been delivered, maintenance

responsibilities are given to contractors for a certain period as a measure of guarantee before the government can take on full maintenance responsibilities.

Mr. Nkosi was the first participant that was approached for an interview. He is a military veteran who moved into the area in November 2019. When the researcher knocked on the door and was told to come in, Mr. Nkosi was holding a screwdriver and an object that looked like a light switch. He is self-employed and had come home for a lunch break, but he was welcoming and allowed the researcher to interview him. When he was asked about his feelings and thoughts about his house and property ownership his response was:

"…. To have a house is a blessing in disguise. Though you see… If you haven't built the house yourself, my sister, it comes with problems. You see… now even the plugs … I found this house with problematic plugs. You cannot expect a house you've only occupied for roughly three years to already give you problems with the plugs. Nonetheless, a house that you are given you have to acknowledge and if there are things you have to do extra, you will do them" – Mr Nkosi

Zodwa was also asked about her personal feelings about the property. Before she moved into the area, she was staying with the kids and her husband who is a military veteran at a family house in Duduza. She and her husband are unemployed, and they survived off of her stipend when she was a student. One of her responses indicated gratitude about the property and another indicated dissatisfaction with the state in which the property was in.

"… *it's too much exciting. Now the kids have their place to call a home, they have a stable place to live in, in which they won't be disturbed by anyone*..." -Zodwa.

"… *this house, I don't know who has approved it because it has many faults. More especially with the plumbing. It's very… we've been here for two years but it's already creating problems*..." -Zodwa.

The questions that were directed toward the house and general properties presented a sense of dissatisfaction with the physical structure and its quality for participants. However, abstract attributes about their houses were met with positive responses. The table below summarises the main participants' responses about the houses. Many of their responses were influenced by subjective comparison with where they stayed before, and their expectations.

Table 4: Participants' main responses on their properties

PARTICIPANT NO.	ATISFIED	OT SATISFIED
1. Paul Ndlovu	Free from family politics; relieved	Not the houses they were promised; breaking plugs and meters
2.Dominique Peterson	Having own space; means a lot	Small houses; no privacy with neighbours; everything falling apart; not as expected

3. Diketso Mazibuko	It is what was expected	None
4.Thamsanqa Mvubu	Happy to have a house	Yard too small; things are breaking
5.Mariam Sekgonyane	It is free and cannot complain; It is quiet	Too small; low class material; not soundproof
6. Juanita Fernendez	House is more comfortable; no longer paying rent	None
7.Zodwa Khubeka	Place of peace, it is quiet	Electricity more expensive; not happy with size
8.Vuyiswa Mthambeka	Houses are nice; Everything in one place (toilets, kitchen)	Very small
9.Joe Ndamu	Glad to own something	Size too small for 17 people; Electricity is a challenge
10.Pamela Skhosana	Roof over their heads	House too small; no freedom of movement; always repairing
11.Siboniso Mohapi	A roof over their heads	Not happy about size
12.Zakes Debeza	Appreciate having my own place	Hunger, Property too small for ploughing food; things breaking not affording to fix;
13.Byden Smuts	A benefit for children and their children	House is small
14. Thulisile Mabeka	Own a property	Defaults with property
15. Florance Khalo	Kids have a place to call home	Has many faults especially plumbing
16. Lwandle Makeba	Comfortable; Everything in one place (tubs, kitchen)	None
17.Mellisa Radebe	Happy and loves the house	Not happy about size
18. Bongi Nkosi	Paying less rent	Do not feel safe, no butlers

Source: Author

What exacerbates the issue of maintenance of the properties is the increased cost of living during the pandemic. Some participants felt that the Covid-19 pandemic had led to financial implications due to job losses where they could not afford to buy food and travel. The inability to afford basic means would ultimately affect how residents would afford to maintain or fix defaults on their properties. 4 participants were affected financially due to job and business losses. An example is Juanita who was working at an Early Childhood Development Centre and lost her job due to the pandemic and Lwandle who was self-employed and had to close a transportation business because of the pandemic.

"*I feel like it affected us moneywise, it impacted us badly. Income was not enough anymore; we could not buy groceries or rather afford transport to go and buy groceries... I walked for 1 hour 30 minutes to the mall just to buy a few groceries. I used to do ECD so obviously the kids were not going to school and that affected me*" – Juanita

"*No... Well in terms of the income, there are needs we cannot meet now that Covid has struck... it's difficult to travel now or spend money on transport ... I had another business that had to stop running because of Covid, a scholar transport uhm so yeah it is what it is*" - Lwandle.

The officials mention that it is expected for beneficiaries to complain about the size of properties. This is primarily influenced by the housing sizes that were offered during apartheid which were approximately 56 square meters and contemporarily those have been reduced to 40 square meters. This is because urbanisation is at its peak, fiscal constraints, and land availability is scarce. The scarcity of land is central to land cost and affordability, exacerbated by geotechnical concerns such as soil conditions, dolomite, and shallow undermining; environmental concerns such as sensitive areas; social/political/legislative concerns such as land invasions, and objections in integrating subsidised housing to existing neighbourhoods (Cooperative Governance and Traditional Affairs, 2021). A municipal official also raises an interesting point that complaints about the size and density of houses is due to the comparison that beneficiaries make between state provided housing in metropolitan municipalities and rural municipalities. That rural municipalities have low demands for housing provision due to their population and thus ample land to provide housing.

The use of limited land to optimise housing delivery within metropolitan cities embodies the principles of density and efficiency as discussed by Harrison, *et al*., (2014). However, this principle does not completely resemble resilience outside of diversity in land uses, housing types, facilities, and amenities. These diversities and mixes make it easy for residents to adapt to an area where they can live, work, and play.

Regardless of complaints with the size of the properties, with exposure to the Covid-19 virus, some participants felt that it was due to their houses that they could be able to isolate. This as compared to where they lived before, where it would be just a single room, and without the possibility of isolation. Regardless of size complaints, participants acknowledged that the partition of rooms made life easier and also promoted the establishment of working spaces.

"It has a lot of privacy. We were staying in a room and sharing it but now we all have our own space. I am satisfied with everything" -Mariam.

"Well, yes, this house was a blessing in that regard. This house was a blessing because I could isolate myself here. Where we stayed before it would've been impossible to isolate" -Lwandle

Accommodate a Technological Era

Lockdowns and restricted travel from the Covid-19 pandemic had caused the majority of people to work and study from home. This meant that most professionals and students had to

meet virtually and do tasks online. This was a challenge for the people of Palm Ridge because it was difficult to get privacy since the houses are close to each other, difficult to get strong network coverage, and access the media for information. Contributing to the challenges relating to the reliance on technology was also the affordability of necessary devices. This meant that to some degree there was a digital exclusion for Palm Ridge as a new development, in an era when this is mandatory. The response below converses these challenges.

"*... but you see here when you talk these people next door can hear you. For real and when you're in the house and you do something they can hear you. Can you hear them now? You, see? It's not nice. The space is very little."* - Zakes

"*... Another huge challenge is with the network in the area, that's a very big problem... I used to have assignments in which the network was bad, very hectic. During COVID we used to go... I attended through socials so I had to go far to do what I needed or what needed to be done because network… no especially on weekend it just went off it can even take the whole day"* – Pamela.

"*Oh... but that money is too little, but we must say thanks God. That money is too little, oh... that money you get it now and then tomorrow its finished. I cannot even buy somethings because my house is empty as you can see. I don't have any I don't even have a TV*" – Gogo Thuli

Accessibility

A general perspective that participants conceded on was that the area is isolated from what they would consider imperative for the functionality of a neighbourhood. This embodies the persistent apartheid spatial planning characteristics which perpetuate inequality and exclusion. The South African policies and plans that are concerned with housing advocate for principles of accessibility in developing complete human settlements, however that is not the case in practice. Nonetheless, participants also acknowledged that the area is fairly new and that most likely, eventually services and facilities will be established. This was confirmed by the official who stated:

"*...look what happens is you've got different departments involved. The departments that are involved like your roads and transport, your departments of social service, education, we bring them in as stakeholders because when we plan for houses, we don't do it alone. We take the other departments into consideration...*

Where we build houses, we must at least see that there is land to build schools, land to build houses, clinics, you know all these things are in the package. There's no way that we'll just take a person, take them, and put them there, where there's no schools, no clinic, no... You know social things. So, we plan around it. When they build the houses, already town planning has included those things".

One of the dominant Marxist psycho-social explanations of this phenomenon as that of false consciousness. Where perceptions of those who are subservient are influenced by hegemonic ideas (political) through long-term expectations to create grounds for contentment (Gramsci, 2012). The people of Palm Ridge accept the state of their exclusion from immediate access to basic facilities by carrying long-term expectations because the area is still new. However, the reality is that although permanent structures for these social services are not provided immediately, temporary structures should be provided for health services, police services, and mobile libraries. Especially during a pandemic where there are travel restrictions and curfews, participants desired to access their most basic needs such as health care in close proximities. One of the municipal officials stated that one of the challenges to establishing integration in delivery of housing and services reflects the lack of synergy and coordination between sector departments, which is also reflected in the policies and frameworks.

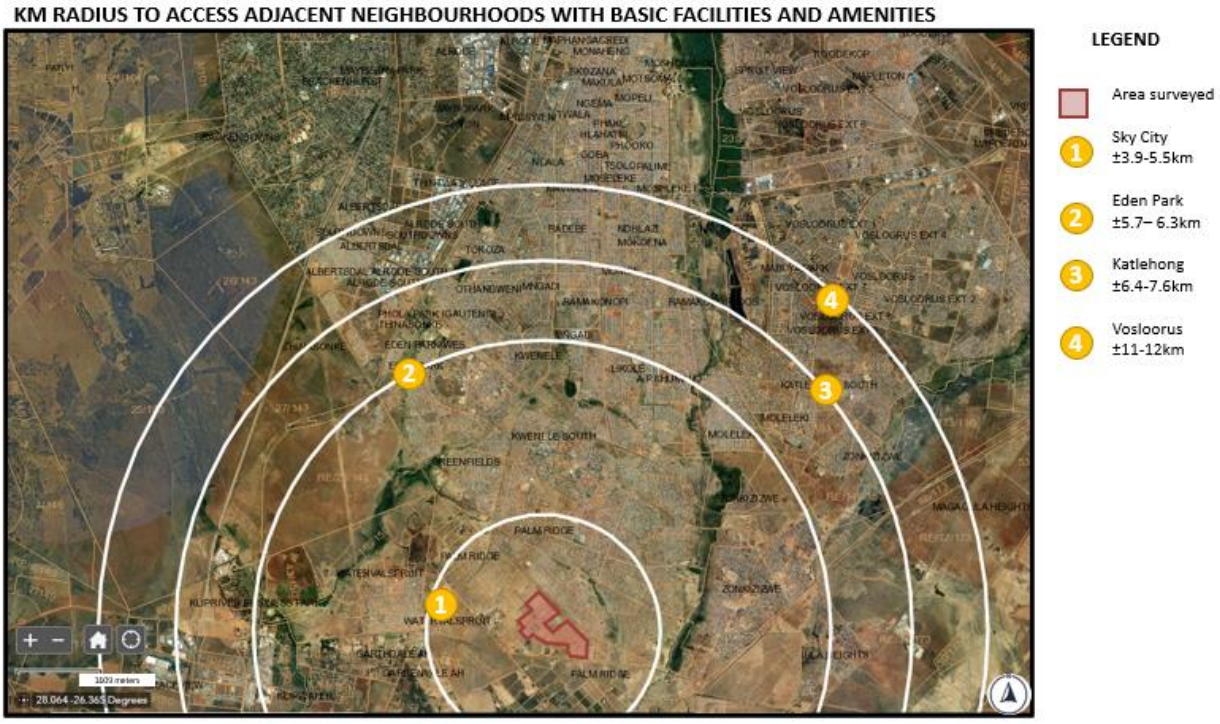
"Social amenities? We don't have that, the area is fairly new, there are none, but people are trying to organise some. But the place is fairly new, but I guess the development is also very slow because by now in an ideal world we are supposed to be having a police station and a clinic of our own. Because we are in the outskirts of town, far from everything" - Lwandle.

"We've tried to speak to the councillor and station commander to at least make a satellite police station because we're dependent on Eden Park Police station and its far. It's an old police station, and it's far. Even if you look at the population around, it would be unable to serve this population, and the area is still developing you, see?" - Mr Nkosi

"Let me explain. When we stayed in Eden Park neh? the services were much better. Even though the place is new, there must be installed clinic and stuff but there's nothing" -Juanita.

The public facilities and amenities that the residents of Palm Ridge use are the ones in surrounding neighbourhoods such as Eden Park, Sky City, and Katlehong. The map radius map shows the different areas and distances participants travel to access amenities, services, and facilities.

Map 3: Radius to which residents of Palm Ridge access facilities and amenities



Source: Author, [October 2022] base sourced from Property search (drdlr.gov.za).

The community depends mostly on the local tuck shops in the area for necessities such as bread and airtime. They have access to retail and mercantile activities at Sky City mall which is a 9 minutes' drive or roughly a 1 hour 30 minutes' walk to and from. The participants also alluded that they access clinics and police services in Eden Park where they travel to using a taxi and it is approximately a 28 minutes' drive to and from the facilities. Eden Park is also an area where most of the children in the area go to school. Alternatively, they access these services and activities in Katlehong which is roughly 6,7 km away from Palm Ridge. Other facilities such as hospitals are accessed in Vosloorus and collect grants from Alberton which are outside the radius on Map 3. Residents mostly walk to these facilities, ask for free lifts from taxi drivers when they don't have money, or pay for taxis. Although most participants' responses indicate that they walk to these spaces, the neighbourhood did not have any transport stops and sidewalks for pedestrians (**see image 3**). According to the Neighbourhood and Planning Design Guide (2019), the maximum distance that many public facilities should be is 5km depending on the population threshold. Nonetheless, Palm Ridge is made up of 10 extensions and is still growing, meaning the population threshold may be adequate for such facilities. Another concern mentioned by participants was regarding the unreliability and cost of public transport in the area. This was coupled with the complaints about the bad condition which the taxis are in. Participants' responses below indicate that lack of access to reliable and afford public transport can act as a barrier to access, and overall well-being. Moreover,

they felt that the pandemic has exacerbated the delay in the delivery of the area's most basic services and amenities.

"*Anything is, it's expensive. The bread is expensive here R20.00. When you go to ShopRite it's like the bread is R15.00 but now you have to pay for transport. The tuckshops here think they're Woolworths, they think we have money*." – Joe

"*…. the only thing that is costing us the most is transport. We spend a lot on transport because this place is far… we thought that if the Covid-19 passes things will get better, the government will build stuff here* " – Pamela.

"…*we have to use public transport to get to places. So, no you have to leave earlier to get anywhere on time and transport is not reliable, especially in this area*…" – Vuyuswa.

Transport

One of the most critical areas regarding housing and resilient settlements discussed by Valenzuela-Levi, *et al*., (2021) and Simon (2016) is the issue of low-transportation energy inputs through public transportation. Low-transportation energy inputs facilitate sustainable settlements because they prioritise energy efficiency, reduce greenhouse gas emissions, and reduce the use of fossil fuels. These are grounds for housing policies to be integrated with transport policies to promote more sustainable settlements. When housing is delivered in secluded locations without forms of reliable transport, it barricades accessibility thus contributing to stratification issues and inequality. When Cardoso (2002) speaks of life chances, he mentions access as one of the fundamental ways in which people's life chances can be improved. Some participants highlighted how segregation of the area to opportunities has impacted their lives.

Researcher: *Other than that, how would you say being here has impacted your life?*

Zakes: *It has changed my life, but backwards. It has changed my life backwards.*

Researcher: *But do you think there's anything that can be done so that your life can be improved?*

Zakes: *Here? Nothing. Uhm… only if I can be moved out of this place.*

Above, the participant was referring to how being in the new area has had no progressive impact in his life because he is constantly repairing things in the property. Secondly, because it is difficult to move around in the area due to the lack of reliable public transport. Another response that similarly articulates how the area has impacted their lives was one made by Juanita.

"It's changed my life so much; opportunities are very far. If I have to go to the police, I have to go to Eden Park, there's no police station here. If I have to go somewhere to buy food, bread, you can't buy here you have to go to sky city. There's no taxis here and stuff. You understand? So, there's a lot of things. Taxi is far, its twelve rand local, from here to there, it's expensive the price goes up whenever you say something in the taxi".

Responses from the interviews with participants from the neighbourhood indicate that alternatively if residents cannot access services in close proximity; they would either at least have access to reliable transport. Another participant who felt being in the area has not had any positive impact in his life was Byden. Byden stays with his wife and two children. He moved into the area and had hoped that it would be better because where he was previously staying there was a lot of crime and violence. Below is his response when he was asked what impact the area has had on his life.

"It made my life worse... Because there's a tavern just a house away from here so there's always fights. Every weekend... that Tarven there's no weekend that goes by and there's no fighting there or here in the street".

All the participants interviewed from Palm Ridge use public transportation and as highlighted there was a high degree of dissatisfaction with it. However, like in many other studies conducted during the pandemic, concerns about exposure to the virus while using public transportation were heightened. The response below is from a participant who caught the virus while using public transport during the pandemic.

"Uhm me, I think I got it in the taxi, I did not wear a mask. I heard this other aunty coughing, me I didn't open the window nothing, and when I got home yah the symptoms started" – Lwazi.

The dimensions discussed in these sections are necessary for pandemics. They correspond to literature discourses and housing policy discussions in their pursuit for sustainable and liveable communities. Moreover, the dimensions discussed collectively make contribution to quality housing, well-being, comfort, and fulfilment of its occupants.

1.2. Soft Dimensional Housing Needs

The study's problem statement has highlighted a gap where studies on housing during the pandemic focused predominantly on technical attributes and spatial attributes, neglecting soft dimensions. This section presents findings on softer dimensions of both resilience thinking and housing needs during the covid-19 pandemic.

Sense of Belonging

The first soft dimension of housing need that emerged while engaging with participant was 'sense of belonging'. Participants come from diverse locational contexts, spoke different languages, and were further divided by the belief that Military Veteran Housing should be better adequate than that of Breaking New Ground. (Formerly known as RDP Housing). However, the only notable difference between the two housing programmes was that Military Veteran Housing had a carport (**See image 3 below**). The municipal officials who were interviewed also confirmed that BNG housing and Military Veteran houses are not the same. This is because although both are fully subsidised housing, housing for military veterans is supposed to be bigger in size than RDP houses. The statements by Juanita and Mr Nkosi below, who are military veteran housing beneficiaries allude the disparity.

"*Before we moved in here, we had like some letters that we were given where they promised us there would be a lot of space, there won't be a lot of RDP houses close by. So, when we moved in here there were RDP houses, and there wasn't supposed to be RDP housing*" -Juanita.

"*Yah from the side of military veterans we are not satisfied, we are still fighting because they did not promise us small houses like these, we were not promised such small yards*" – Mr Nkosi

Image 3: Military Veteran housing with a carport



Photo: Author

Social cohesion and networks are some of the soft dimensions that Harrison, *et al*., (2014) relate to resilience thinking with the potential to hinder or promote sense of belonging. However, literature on complex adaptive systems highlights human interaction and politics as areas of caution when translating resilience from the natural environment to the social environment. This is because human interaction can impact social networks negatively. Apart from politics, Palm Ridge's social potential was further disturbed by the hard lockdowns during the pandemic where the potential for community cohesion building was delayed. Eshkavari

(2022) challenges the idea of housing as a structure but rather as a neighbourhood and a place that cultivates collective life. Under ideal circumstances, collective life provides rapport response to disturbances such as pandemics. An example is the case of Singapore's strong community efforts to cope during the pandemic where the community combated fake news and collectively distributed protective equipment, food, and proper information (Yip, *et al*., 2021). In another study by Haiyang and Jingjing (2020) it was found that the outbreak of Covid-19 lowered emotional well-being by 74% since it obstructed collective life. This was also the case with Palm Ridge extension 10 where one of the participants stated:

"It... it also affected the household because we are in a new place and we did not know neighborhoods that we would meet or get to know your neighbors that well… now we are in lockdown, and you don't get to get help from someone because you are not used to each other... Because now we are staying inside, we don't know whether it's safe to go... oh It did, and it was very, very hard for the community."
-Diketso

Diketso's statement also illuminates the need for social belonging as one which has to be cultivated in communities. As Estaji (2014) mentions that housing must speak to all five tiers of Maslow's hierarchy of needs, the third tier being the need for love and belonging. Although abstract, when this is met it contributes to well-being. Mark, who is a public official, mentions the importance of analysing social needs to make provision for places of entertainment, public open spaces, and places of recreation, among others during settlement planning phases to facilitate a sense of belonging and collective life. This view is outlined in the settlement planning and design guidelines of 2019. These are spaces that allow for and enable solidarity and community resilience building and are important for global shocks, especially recovery. Another response by Byden Smuts who has moved from Eldorado where he was renting to Palm Ridge indicates the need for belonging.

Researcher*:* *Has moving impacted your life when you compare here to where you were staying?*

Byden*:* *Yes, it has impacted my life because how can I explain... this side I don't know people, that side I knew people. It is more difficult to connect with people on this side.*

Researcher: *But then, what do you think that this area needs, or you need from this area?*

Byden: *To make new friends because without friends you are nothing.*

The cases by Horne, *et al*., (2021) and Song, *et al*., (2021) did not put emphasis on the issues of social relations and ties as one of the areas affected by the pandemic. However, may be because their studies were during the pandemic and this issue was subtle. Despite that, they recognise how isolation had an impact on mental well-being. Camfield and Allister (2005) also explain how the medical field acknowledged social and environmental factors as contributors to well-being. For some community members, although it affected them financially, the

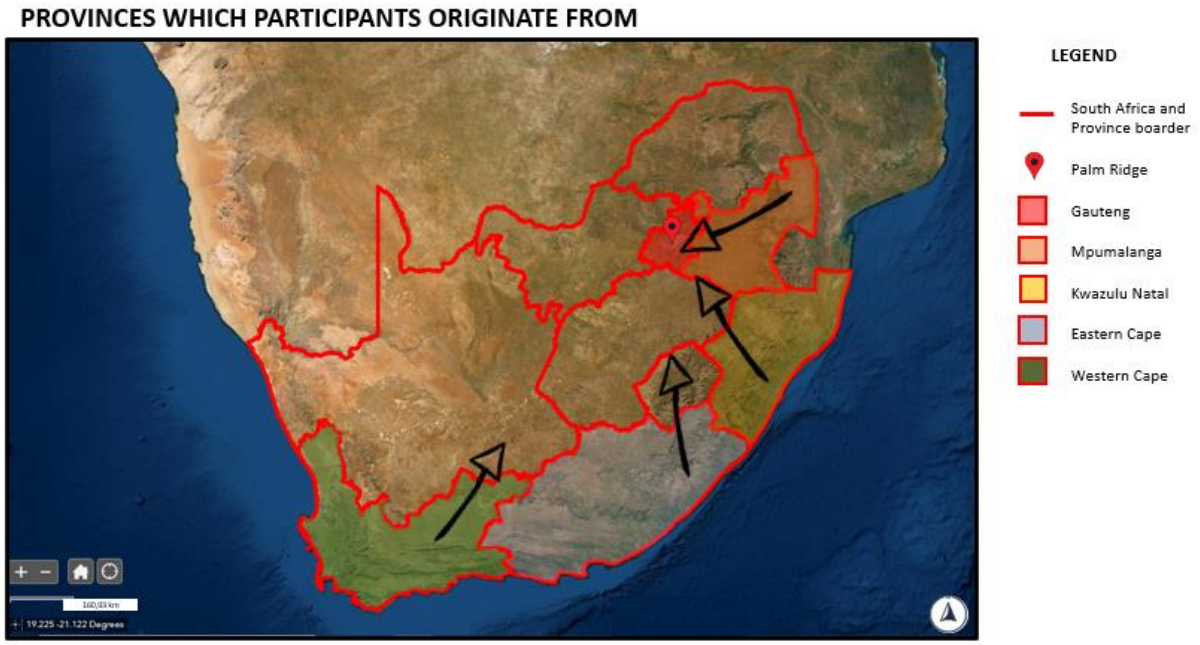
pandemic also contributed to building community resilience and solidarity where members came together to assist each other in times of need. Below are responses from participants who indicated this. While in the middle of an interview with a participant (Mr Zakes Debeza) sitting on a shade outside their house, another resident from the community passed by and Mr Debeza highlighted how the challenges of the pandemic made him and other people in the community have strong social ties.

"*It did... Financially and physically because there was nothing. It was difficult to buy stuff for the house... And we had just got here. You know we hardly went to the shop to buy something. We used to pay R10 for a loaf of bread... Now the loaf is R30/R40... So, there was things in the black market that affected us. Not me as a military veteran but all of us... You see this person, somebody is greeting me because we're together (someone passing by), we are a family. You don't have sugar? Come to me I will give you; we are living as one*." – Zakes

Families and Improved Socio-Economic Positions

Some of the ice breaking questions with participants probed where participants are from and what inspired them to apply for housing in Ekurhuleni. The responses indicated that twelve participants were residing in surrounding areas such as Germiston, Eden Park, Eldorado Park, Thokoza, Vooslorus, and Spruit View before moving to Palm Ridge. From the twelve, nine were renting shacks and backyard rooms, and 3 were residing in family homes. The remaining six participants had moved from other provinces such as Mpumalanga, Kwa-Zulu Natal, Eastern Cape, and Western Cape. The Map below shows the different provinces outside Gauteng where participants are from.

Map 2: Showing provinces that participants come from



Source: Author, [October 2022] base sourced from Property search (drdlr.gov.za).

What brought participants from other provinces to the Gauteng Province was the need for opportunities, to be caregivers to their loved ones, and to have an improved life. Below are abstracts from dialogues with participants stating where they are from and why they are presently in Palm Ridge:

"*I am from Thokoza, I was born and raised there. Born at Natalspruit Hospital. Now I am here with my mom. When she moved here… I came with her because there wouldn't be anyone to take care of her... she's old*" – Mariam.

"*Well… I'm from KZN in Nongoma. I came to Johannesburg to look for a better life. I was staying there but then I applied for a house, so I got this house and that is how I got here*" -Nokuthula.

"*I am from the Eastern Cape. I came here for work opportunities, I ended up finding a job this side, my parents encouraged me to come look for a job this side*" – Thamsanqa.

Eleven participants felt that the area lacked an economic base that could assist them with employment or entrepreneurship opportunities. This was also eminent in how local tuckshops and public transport would exploit residents during the Covid-19 pandemic. A municipal official mentioned that there are several types of assessments generally done to determine housing needs. These among others include a cost-benefit analysis which is more related to the Traditional Market approach; the fishbone analysis which has some elements of the Merge Approach; and SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis which relates more to the Cultural Relativist approach. The most used for the municipality is a SWOT analysis which looks at the economic, social, environmental, and institutional needs of a settlement. A SWOT Analysis of a Township Establishment/Settlement is done in the planning phase. This means that an economic base is assessed for potential economic development within a settlement.

"...*For one, there's no industriality here. There's no farm, there's no industry. Everyone here, I'll tell you is unemployed... even if it's said I start a business it wouldn't flourish. This people do not have money. You understand? That's why I work remotely and hustle for whatever I can get remotely...*" – Siboniso.

The city experiences high volumes of migration from all over the country due to its economic potential (Cooperative Governance and Traditional Affairs, 2021). At the same time, much of the population is unemployed and depends on the city for socioeconomic support (*ibid*). The White Paper on Housing and Breaking new Ground advocates for housing to stimulate employment opportunities in the process. Housing that is not entangled with employment or economic opportunities exacerbates urbanisation that does not correspond with economic growth - a chronic stressor for the city posing challenges for planning and management.

Officials interviewed highlighted that one of the challenges to planning for and developing desired settlements with access to opportunities is the lack of resources; that the ideas of

adequate and sustainable human settlements often do not correspond with the available resources. This makes the provision of housing to be focused on minimum standard needs such as access to running water, sanitation, and electricity. In the text below, an official explains the several ways in which issues of settlement establishment for low-income households are approached in the city and what areas of concerns are.

"Y*es remember... We are living in a very difficult era. When it comes to housing look around... Ekurhuleni has 119 informal settlements, and these are not sustainable. And remember, people in informal settlements it is like today they are staying here, and tomorrow there. It is the city's responsibility to eradicate these informal settlements by relocating them to a developed area with proper housing, affordable rentals, or upgrade their settlements, and stuff like that. Like re-blocking where we place their shacks in proper layouts and serviced stands...*" -Dominique

There is a significant emphasis from all the officials interviewed that the constitution is the primary source of needs identification, such as water, safety, shelter, food, and access among others. This also influences settlement planning to be more concerned with providing land or housing that has been serviced for water, sanitation, and electricity. This corroborates with the National Centre for healthy housing which identifies access to drinkable water as a condition for healthy housing. It also speaks directly to Doyal and Gough's universal needs approach where these are needs categorised objectively or conventionally. Furthermore, McGregor, *et al*., (2009) states that the cause for standard approaches in assessing and providing needs is due to the limited public resources.

Even with limited economic opportunities, some residents used the houses to generate income through rentals, the sale of food items, and workspaces. Other uses on the property included small-scale household agriculture. A study by Horne, *et al.*, (2021) has found that properties that allow spaces for gardening, working from home, and good orientation contributed to well-being during the pandemic. Therefore, houses need to be more than just residential structures. Ytrehus (2001) mentions the importance of relativism, specifically cultural relativism as a response to housing needs satisfaction. Livelihoods associated with subsidised housing in South Africa have shown that provisions for informality are imperative and part of a culture in subsidised housing. Case studies such as Lufhereng show that what drives local economies within contexts of subsidised housing is the use of properties for business practices. The images to follow display some of the activities that participants conduct on their properties other than residential.

Images 4 and 5: sale of food items on properties





Photos: Author

Images 6 and 7: Household agriculture on properties





Photos: Author

The participants also expressed aspirations to utilise their properties to generate income and further change the structure of their properties. These resemble what Charlton (2017) identifies as invented co-production. These are how principles of fluidity, reflexibility, and multiplicity among others demonstrate the degree of resilience and an improved life. Similar to Mello, *et al.,* (2021) who speak to ephemeral interventions in the production of space. Where practices within a property demonstrate how people adapt to changes in context and generate new forms of livelihoods.

Diketso: *we are from different backgrounds and that's what people in the area are fighting about. For example, only people who live here must do business here. They don't want people form Eden Park or Spruit to come here. You can't build a shack here it's not allowed; they don't want...*

Researcher: *Who does not want you to?*

Diketso: *military vets*

Here the participant was expressing how she wanted to build a shack so that she can rent it out to generate income through her property. However, it was a practice that was not encouraged in the area. Which also shows the power and decision-making dynamics within the society. This supports the statement by Olazabal, *et al*., (2012) that the limitations of adapting and transforming in response to shocks is largely influenced by society, its culture, power, and politics. This affects how the people of Palm Ridge would possibly use their properties to create livelihoods as a measure of adaptation to locational displacement. The statement by Diketso and other participants with similar sentiments indicates a need for flexibility and flexible rights within their properties. A municipal official mentioned that one of the challenges that impede the implementation of resilience thinking in settlement projects is the lack of foresight. Given that metropolitan cities experience population growth and urbanisation it is important to proactively plan for the future rather than reactively respond.

Safety

Byden's response on the need for a police station since he does not feel the area is safe does not only speak to access but also speaks to concerns about safety in the area. Participants feel that the lack of a police vicinity nearby compromises their safety and results in crime. Safety issues mainly revolve around the safety of children and the elderly. This is because there are no public space and parks where children can play and property sizes are small, which result in children playing on the street meanwhile there are no traffic calming measures. This goes back to Simon's (2016) view that public open spaces are among the most important spatial attribute linked to well-being. The case study by Horne, *et al*., (2021) has also found that spaces with few or small open spaces worsened restrictions during the pandemic. With the elderly, the challenge is that they leave early in the morning to collect grants far or the clinic and this impedes their safety.

"Actually, a police station because it is sometimes not safe for me... Sometimes... Like Fridays and Saturdays, it's not safe... And if they can put speed humps because people race here and it's not safe for the kids. And remember the yard is too small for the kids to play in so they play outside." - Byden

*"Places to play for the kids such as tennis courts, you see. Parks, where children can play safely, knowing that after school that's where they'll be playing. Even halls where elderly people can go get their grants in close distances" -*Zakes.

“Everything, especially clinic. There are old people here, you can’t... There's an old aunty I saw once, she did walk to the clinic early in the morning, she walks. She didn’t take taxi man, and I think she’s 60 plus. She walk to the clinic, and that is not okay. It's far yoh and you end up thinking... What if something happens to her? It's not okay, there's no clinic here, we’ve been waiting for a clinic. There is a mobile one but it's also a distance from here. Why don't they put something maybe just here for the old people” - Juanita

To comply to the pandemic restrictions such as curfews, participants had to leave their homes very early in the morning to access services, and this compromised their safety. Some participants have also felt that the neighbourhood is not child friendly due to safety concerns, a lack of facilities and amenities especially schools. For these reasons they had to leave children behind with extended families when they moved into the area.

“*I stay alone, I left the kids in Eden Park... I wouldn't stay here with children you see? The younger on is 3 and there’s no creche close by. If I had to pay transport for her to go to creche I would have to pay R450-00 and that’s a lot for me*” - Bongi

In some parts of the neighbourhood community members developed and contributed financially towards a neighbourhood watch that would patrol the area for safety purposes while other parts could not due to financial constraints worsened by burdens of the pandemic. Other measures for safety by the community was through whistleblowing for community action if one is in danger. This reflects Yip, *et al*., (2021) concept of community building and action as means to solving local challenges.

“I would say that I feel safe because we meet, you understand. We meet as a community and we talk so that outside people do not invade our area and again we have whistles, so if there's somebody who would bother us, we whistle... If something happens you whistle, and the community will come out because even the cops get here very late... You see all those things we try so that we have securities in the area, but now who will pay for them because we don't have the money you see?” - Florance

Maslow’s second tier of needs speaks to the needs for safety, and this also applies to the contexts of neighbourhoods where safety should be prioritised. Apart from crime reasons, a police station was seen as a necessity for the certification of documents by those seeking employment and educational opportunities.

“...the police station that we go to is in ext. 7 Katlehong. It is strenuous because when I need to certify documents the police station is far...” – Zodwa.

Health

Another major concern brough fourth by fifteen participants was the lack of waste collection and management in the area. Participants mentioned that there is a lot of dumping sites in the area which as a result cause an infestation of flies and land pollution. The principles outlined

by National Centre for Healthy Housing speak to pest and contaminant-free homes as healthy ones. The infestation of flies causes residents to be worried about their health. Issues of pollution have a direct impact on well-being and can further worsen health implications of Covid-19, especially when residents minimise ventilation in their homes due to external air and environmental contamination. Health and autonomy are basic needs according to Doyal and Gough's 1991 theory of needs, with an argument that the needs of shelter should satisfy those of health. What is displayed by Palm Ridge and the establishment of dumping sites is the satisfaction of health needs through inhibitors or violators. In as much as the community has established a way to dispose of waste in the area, this has negative implications for the environment and houses.

Image 7-9: Different dumping sites in Palm Ridge ext. 10



Photos: Author

"Because at that time now look there it is all dirty because people from… with this place that is where they litter… it has turned into a dumping site look at how it is now even when there's the wind all that

trash comes to my yard and when it is hot all the flies also end up in my house. Even now the windows are always closed because these flies get inside the house... Even the smell from there comes here inside the house" - Florance.

What was highlighted in the interview with the official was that when a township is established for housing projects, other departments are included in the planning phases and approval. This comes with an expectation that soon after the houses are delivered, facilities and amenities are developed. An exception, however, is that the most pressing social services should be temporarily provided for (police services, clinics, schools, and transport). What also came out of the interview was that when a site is tested for feasibility, surrounding areas are audited for potential to temporarily provide services to the new establishment. It was also highlighted that for Palm Ridge, planning for facilities, services, and infrastructure in consultation with other departments was done, however, delivery is delayed due to individual departmental challenges such as the prioritisation of their pilot projects.

The soft dimensions discussed in this section of findings resonate closely to measurements of well-being. They are less tangible and relate to social and psychological well-being which are concerned with participants' experience and interaction with their spaces. In the process, concepts of social and psychological well-being are integrated with that of environmental and economic well-being to highlight the facilitation of inclusive, resilient, and vibrant communities. Responses by participants were sufficient in answering questions in the interview guide and participants were not aware of how they were affected by the pandemic in a significant way that was different from how it affected everyone else anywhere. Nevertheless, their responses indicated several impacts similar studies by Horne, *et al*., (2021) and Song, et al., (2021).

Conclusion

The case of Palm Ridge extension 10 subsidised housing has assisted in inquiring into and interpreting housing needs. Two major themes assisted in categorising the necessary housing needs for pandemics. The first theme highlighted technical housing needs such as size, density, adequacy, accessibility, and transport among others as important for mitigating, coping, and recovery from pandemics. The second theme was on the softer dimensions of housing needs such as sense of belonging, family life, socio-economic development, safety, and health. Although safety and health can be attributed to technical dimensions, their discussion was not based on scientific reasoning.

CHAPTER 6. CONCLUSION AND WAY FORWARD

Introduction

Seeing that this study has explored the relationship between housing needs and resilience theories as integral parts of housing interventions by referring to the Covid-19 Pandemic, the question then becomes that of 'what now?' Wagner, *et al.*, (2012) state that it is important to conclude a research study by discussing the wider implications of the study's outcomes. Exploring theoretical relationships coupled with the study's empirical findings have allowed the identification of housing needs necessary for mitigation, coping, and recovery throughout the pandemic.

1. Restating Research Aims and Objectives

This study was vested in achieving these objectives:

- Reviewing existing theories and frameworks on housing needs and resilience, and their significance to pandemics.

The literature reviewed on housing needs discuss the challenge of adopting universal housing needs without adequately considering cultures and contexts. Nonetheless, studies on concepts of healthy housing/home have identified commonalities in what are considered housing needs across cultures and contexts. These housing needs (e.g., space and density requirements, thermal regulation, and the promotion of access to social necessities) correspond to resilience discourses, and resilience discourses are imperative for global shocks mitigation, coping mechanism, and recovery.

- Analysing changes in housing needs under the influence of Covid-19.

The Covid-19 pandemic did not bring significant changes to housing needs, however, it made apparent some of the housing needs that would generally not be given due consideration. The needs that were made apparent included the need for more space for isolation, especially in relation to the number of people in the household; a sense of belonging throughout lockdowns and isolations; and access to services and amenities in close proximities among others.

- Assessing the realisation of housing needs through lived experiences and expertise from state-housing stakeholders.

Certainly, making apparent priority housing needs during the pandemic does not entail complete fulfilment of them. However, highlighting priority housing needs during such an era makes provision for preparedness to future pandemics. According to participants from Palm Ridge, the increased cost of living made it difficult for them to make provisions for housing

needs. However, some visible efforts were in how they would maintain/fix defaults on their properties themselves, and how they would walk an hour's distance to access social necessities despite lockdown curfews. Some participants from Palm Ridge would also realise their housing needs through practices of invented co-production.

Responses from a municipal official indicate that what is currently practised in the housing sector regarding housing delivery is the best way possible to realise housing needs. Although policies are ambitious about developing complete human settlements to realise the fulfilment of housing needs, this is not always the case due to challenges with land availability and fiscal capacities among others.

- Identifying key housing aspects needed to facilitate resilience against future shocks such as pandemics.

Fastenrath, et al., (2019) speak of reactive and proactive responses to urban challenges. Proactive approaches are intended to anticipate and address potential challenges, meanwhile, reactive approaches respond to challenges as they present themselves. The facilitation of resilience against future shocks such as pandemics require proactive measures. Subsidised housing like that in Palm Ridge ext.10 was identified by officials as proactive for the pandemic, unlike social housing because it provided security when households were threatened by insecurities of losing their properties and being evicted and allowed for isolation. This is true however, based on respondents, it seems that Palm Ridge as a neighbourhood does not accommodate recovery post the pandemic by enabling access, mobility, and a sociable environment.

2. Summary of Key Findings and their Implications

The study's empirical findings have identified two dimensions of housing needs relevant for pandemics; Technical Dimensions of housing needs and Soft Dimensions of housing needs. These dimensions culminate both resilience and housing needs theories but through the interpreted perspectives of stakeholders (residents of Palm Ridge and Municipal officials).

2.1. Technical Housing Needs

The first technical housing need spoke to adequacy, quality, size, and density of housing. 16 participants residing in Palm Ridge expressed mixed feelings about the adequacy of their houses based on the experiences they've had with their subject properties. Although all participants were grateful to have a roof over their heads, 10 respondents felt that the size of the houses and yards are very small, and the quality of the houses was poor. For a pandemic era, the size of a property is significant for health and safety measures as well as compliance with the pandemic regulations. Moreover, when the minimum size for a room is subject to the

number of people who occupy it, the likelihood of household overcrowding and its consequences on physical and mental health are reduced. Size as a characteristic also overlaps with the need for privacy. The pandemic has presented a culture of working and learning from home which requires privacy; however, household overcrowding can negatively implicate this.

Subsequently, the quality of a house goes beyond privacy but is also relevant to issues of safety and security. Safety and security as characteristics of housing needs were emphasised in the data collected. These are also primary concerns that motivate the provision of shelter. Firstly, most concerns with safety especially of houses stemmed from the quality of houses, such as wiring, plumbing, and construction materials. The quality of housing as a physical structure should not pose any risk and insecurities from implications such as structural collapse. Secondly, at an abstract level, issues of security of tenure are also relevant. The state-provided housing offered high levels of security of tenure for vulnerable populations thus mitigating the impacts of the pandemic such as evictions and homelessness. Lastly, the quality of a house also has a direct impact on financial security. This is because poor quality requires constant maintenance and with state-provided housing being allocated to low-income households, residents do not afford to constantly maintain the properties.

The second need was concerning the making of provisions for a technological era through housing and complete human settlements. The Covid-19 pandemic forced some residents to work and study from home, revealing challenges with privacy, network coverage, access to necessary devices, which overall, highlighting digital exclusion in a digital age. Responses from 2 participants - Pamela who is a university student and Zakes who works from home in the IT sector present technical housing needs relating to a technological era. These needs are for noise control, which can be facilitated by the quality of a structure, and the integration of network services in settlement planning and design. The findings emphasise that the size and quality of a property should be suitable for doing work from home as determined by the interior space which allows for noise control and privacy.

The third technical need discussed by the study's findings was accessibility. Although literature on low-income state provided housing in South Africa has emphasised the challenge of accessibility due to peripheral locations of these houses, access challenges were further exacerbated by the pandemic. The pandemic's travel restrictions such as curfews, and challenges with increased cost of taxi fares hindered residents of Palm Ridge to access essential facilities and services. Participants had to travel a maximum of 12km to access public health facilities. Although residents hoped for future improvements, the lack of immediate access to amenities raises concerns about inequality and social exclusion.

The fourth and final technical need presented by the findings is transport. The discussions on transport were linked to those of access because the distance to facilities required transport. All the participants interviewed do not own vehicles, they either walk or use public transport. Their responses indicated that reliable and safe public transportation was lacking in the area. This lack caused difficulties in accessing services, opportunities, and amenities. The findings also show the impact of poor transportation on participants daily lives and general well-being.

2.2. Soft Dimensional Housing Needs

The data collected indicated that there were no new emerging needs, however, notable changes in demands for psychological (water and shelter), safety (safe working environments and good physical health) and belonging (feeling connected to others) needs as per Maslow's hierarchy. As opposed to the Covid-19 measures that required less contact, when the pandemic restrictions were eased; a nostalgia for belonging was prevalent. Sense of belonging is the first soft dimension of housing needs discussed in the findings. Most participants felt that they were not able to build communities within their neighbourhoods and subsequently establish a neighbourhood identity. Participants had moved into Palm Ridge during the pandemic thus found it challenging to foster community life and collective efforts during the pandemic. It is important that even in the face of pandemics people still feel that they belong to an environment.

The second dimension was that of family building and improving socio-economic positions. Participants responses indicated that they do not feel that Palm Ridge is a safe and conducive environment to raise children. Some participants expressed that they had left their children back home with extended families because the area does not have facilities for children such as schools and parks nearby. In some cases, parents would have to pay for transport meanwhile they feel that the pandemic and Palm Ridge's peripheral location heightened the cost of living. Palm Ridge's peripheral location coupled with the increased cost of living during the pandemic challenged participants' pursuits for opportunities to improve their livelihoods and socio-economic positions. Nonetheless, some residents of Palm Ridge explored income generating activities through their properties such as rentals, farming, and housing their businesses.

The third soft dimension of needs revealed by the study's findings was safety. Participants were worried about safety and crime rates of Palm Ridge especially with regards to children and the elderly since they are vulnerable. Participants felt that safety concerns in the area were attributed to the absence of a nearby police station, facilities for pensioners and children.

Measures invented by the community to substantiate for their safety needs were a neighbour watch and whistleblowing initiatives. These initiatives demonstrate a degree of community building and action to address local safety concerns.

The last dimension from the findings was health. Fifteen participants expressed their concerns with the lack of waste collection and waste management in the area, resulting in a number of duping sites. Participants highlighted that these sites attract flies to their properties and lead to overall pollution, and they were weary of pest infestation. While participants did not report specific pandemic-related health concerns, their responses indicated a concern with the spread of infections through pest infestations which is an additional health burden to the pandemic.

3. Theoretical Contributions

3.1. During the pandemic, the possibility of community building under lockdowns was through digital or virtual communication. When a neighbourhood is located at the periphery and is also digitally excluded, it experiences exacerbated inequality, deprivation, and triggers in mental health issues. Furthermore, the people living in this space are prone to exploitation and misinformation. Internet access is a necessity for society and can potentially stimulate community building and livelihoods. With the rising opportunities for online work and studying, low-income groups should be able to access digital communications. For these reasons it can be argued that contemporarily, network and internet access are physiological needs because they are the most basic of needs for a digital age. This ideology aligns not only with theories of needs and housing needs but also those related to the digital divide and its consequences on society.

3.2. Another theoretical contribution is that of health and housing during pandemics. Pandemics primarily prompt health concerns. Theories of human needs such as Maslow's (1943) as well as Doyal and Gough (1991) advocate for health as a basic need. This means that with regard to housing, there should be an emphasis on the containment of diseases and reduced spread. This emphasis should be coupled with housing needs at a more standard level, which recognise health within housing as access to clean water and good air quality. Moreover, this also means that the materials used to construct shelters should not be detrimental to health conditions by means of releasing hazardous chemicals, the inability to regulate temperatures, and inadequate ventilation as discussed in literature on healthy housing/home.

4. Practical Recommendations

4.1. The study found that participants are dissatisfied with the proximity they have to essential services such as health care, police, and educational. This is contrary to the notion of complete communities where members of a community or residents are able to satisfy their most fundamental needs. It is recommended that housing projects should prioritise proximity as outlined by the Neighbourhood design guidelines (2019). In cases where delays in provision of these essential services, temporary service or transport arrangements should be made by the state so that low-income communities can have access.

4.2. Participants are either self-employed or unemployed and their motivation for residing in a metropolitan area like Palm Ridge is to access socio-economic opportunities. Settlement planning should assess economic bases to align with potential employment opportunities, not only related to the housing project, but also after the completion of projects. This entails that housing project should be strategically located to facilitate economic activities and job opportunities within the community.

4.3. The pandemic era called for housing designs to be considerate of size of properties and rooms especially in the context of pandemics where home isolation may be necessary. A housing theory that supports debates on size is that of cultural relativism, where in this case minimum size is subject to the use of space. There should be enough room in the house and on the subject land to meet health requirements and account for cultural and social practices. This demands the implementation of both interior density requirements and exterior density standards which allow for greater flexibility. Additionally, a sufficient interior density criterion would enable improved hygiene, family life, comfort, and solitude.

4.4. From the data collected from municipal officials, what is suggested is that housing project processes, priorities, budgets, and time frames should be parallel across involved sectors, both private and public for holistic delivery. Intersectoral collaboration can promote the establishment of complete communities that meet immediate needs. In the case of Palm Ridge, the Department of Roads and Transport together with the Department of Basic Education integrated their plan and efforts to provide school buses for children in the area to access schools in neighbouring communities.

4.5. State provided properties should support flexible land use rights, which allow beneficiaries to utilise their properties for income generating activities and contribute to local economic development. These should be balanced with both environmental and neighbourhood considerations.

5. A reflection on the limitations and recommendations for future studies

There is room for how this study can be furthered. Firstly, within sufficient time frames of over a year, the study can cover more than a single case study (between provinces, cities, or countries) to compare the different types of housing needs and contextual influences. Additionally, concerning increased time frames, the study can adopt longitudinal time horizons to see changes in needs before and after a specific period. For example, emerging needs after other facilities have been provided in a newly established settlement and how the needs surface. Secondly, the study gives room for needs inquiry to be explored through other research design methods such as Participatory Action Research to promote community empowerment on management issues such as waste and land use. This also gives room for community resilience, solidarity building, and the development of local resilience strategies. Thirdly, the selection of a case study with integrated housing developments to access different housing programmes and compare how households in these areas react to shocks and what they identify as priority needs. Lastly, explore the subject of needs inquiry on other sectors related to urban studies such as public transport.

Conclusion

The era of global shocks has provided grounds to reflect on the aspects of housing needs paramount in mitigating the impacts of pandemics as a global shock. Diving into areas of social inquiry is complex and requires a rigorous definition of literature boundaries and methods. A reflection on housing needs, resilience thinking as an informer of housing needs, and well-being has allowed for synthesis and comparison of theory and practice. This chapter has presented the study's findings from a general perspective which speaks to housing and neighbourhood standards and norms. What is reflected in the findings is that the principles of resilience reflect housing needs and that adequate and quality housing reflects the principles of a healthy home. What was also found was that issues of internet access and network coverage are some of the emerging needs associated with housing and societies in the era of global shocks. That the best way to understand needs is through descriptive terms. Although the study has adequately met its aims, there are several ways in which it can be furthered. These ways of furthering the study are mostly embedded in the study's methodology.

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ANNEXURES

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PARTICIPATION REGISTER/Residents

For official use only:

Name and Surname of Participant	
Gender	
Age	
Residential Area Name	
Reference Number of Property	
Type of Property	
Owned/Rental?	
Contact Details	

PARTICIPATION REGISTER/Officials

For official use only:

Name and Surname of Participant	
Gender	
CCC	
Department	
Designation	
Contact Details	

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INFORMATION LETTER- residents

Research title	In The Era of Global Shocks: A Needs Inquiry on Integrated Housing Delivery During the COVID-19 Pandemic
Researcher	Lebogang Mogale

Dear Participant

Lebogang Mogale is a master's student from the University of Witwatersrand studying Master of Urban Management. Her research study is about subsidized housing development in Palm Ridge, Ekurhuleni, South Africa. She is conducting interviews in the aforementioned area to culminate in a broader understanding that could assist planners and relevant institutions in the urban planning, development, and management field to better understand integrated settlements programmes and take into consideration issues of inquiring about housing needs of the general public.

Your participation in this research will be highly appreciated. This interview will approximately take 30 minutes to an hour. If you would like to schedule a specific date to participate, please do not hesitate. Your participation is voluntary, and your correspondence in the interview will be kept confidential.

If you are interested in obtaining a summative report of the research upon completion, you are welcome to provide your contact details at the end of the interview so that you can be sent a copy.

For further inquiries and comments on the interview, please feel free to contact Ms. Lebogang Mogale on her mobile number 0833099347, or email 1433682@students.wits.ac.za or her supervisor Mr. Neil Klug on 011 717 7729, or email Neil.Klug@wits.ac.za

Thank you for your participation.

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INFORMATION LETTER- officials

Dear Participant

Research title	In The Era of Global Shocks: A Needs Inquiry on State-Provided Housing During and After the Covid-19 Pandemic
Researcher	Lebogang Mogale

Lebogang Mogale is a master's student from the University of Witwatersrand studying Master of Urban Management. Her research study is about integrated housing development in Palm Ridge, Ekurhuleni, South Africa. She is conducting interviews in the aforementioned area to culminate in a broader understanding that could assist planners and relevant institutions in the urban planning, development, and management field to better understand integrated settlements programmes and take into consideration issues of inquiring about the housing needs of the general public.

Your participation in this research will be highly appreciated. This interview will approximately take 30 minutes to an hour. If you would like to schedule a specific date to participate, please do not hesitate. Your participation is voluntary, and your correspondence in the interview will be kept confidential.

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Thank you for your participation.

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CONSENT FORM- residents

Research title	In The Era of Global Shocks: A Needs Inquiry on State-Provided Housing During and After the Covid-19 Pandemic
Researcher	Lebogang Mogale

COVID-19 has brought a change in people's housing needs due to job losses, and inflation. It is also changing and reshaping society worldwide, presenting many opportunities to bridge inequality gaps in the process. This especially applies to living space and the minimum standards for the delivery of housing. The delivery of housing during the pandemic has also been more focused on meeting targets, instead of creating spaces where people's needs can be met.

Needs Inquiry is an evaluative process of asking people about their needs. In this Interview you are inquired about the house you are living in, its locality, and how it assists in meeting your day-do day needs.

This interview is completely voluntary, and your replies will be kept private. Findings will be provided on an aggregate basis only, with no specific properties being singled out. Your home address will be kept private and will not be associated with any of your responses. Certain findings may be published by the university for scholarly purposes.

I, ……., agree to participate in this research project.

I agree to the following:

(*Please circle the relevant options below)*

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study.	YES	NO
I agree that the interview may be audio/video recorded including photographs.	YES	NO

I agree that direct quotations from my interview may be used by the researcher in their research.	YES NO
I understand that I will not benefit directly from participating in this research	YES NO
I agree that my participation will remain anonymous (my name will not be used by the researcher in their research report)	YES NO
I agree that other researchers may use the information I provide in my interview, but my name and any personal information will not be used or passed on.	YES NO

…… (signature)
…… (name of participant)
…… (date)

…… (signature)
…… (name of researcher/person seeking consent)
…… (date)

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CONSENT FORM- officials

Research title	In The Era of Global Shocks: A Needs Inquiry on State-Provided Housing During and After the Covid-19 Pandemic
Researcher	Lebogang Mogale

The COVID-19 pandemic is the first crisis that has caused the South African democratic government to declare the National State of Disaster. The pandemic resulted in unprecedented rapid changes to government processes, led to a 'new normal' in the way people live, and challenged the capacity of the government to manage disaster. Human settlements serve as one of the fundamental areas where initiatives to control and reduce the severity of COVID-19 for the urban poor and low-income groups were implemented. The pandemic also offered an opportunity for the government to address poverty and inequality. In the process, priorities were shifted, settlements projects accelerated, and mass temporary housing was provided.

Needs Inquiry is an evaluative process of asking people about their needs or an institution's approach to meeting the needs of the general public. In this interview, you will be inquired about what the government entails to achieve with integrated housing, and how this has met the needs of people.

This interview is completely voluntary, and your replies will be kept private. Findings will be provided on an aggregate basis only, with no specific properties being singled out. Certain findings may be published by the university for scholarly purposes.

I, ……., agree to participate in this research project.

I agree to the following:

(*Please circle the relevant options below)*

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study.	YES	NO

I declare that the views presented in this research are my own and not that of the institution.	YES NO
I agree that the interview may be audio/video recorded including photographs.	YES NO
I agree that direct quotations from my interview may be used by the researcher in their research.	YES NO
I understand that I will not benefit directly from participating in this research.	YES NO
I agree that my participation will remain anonymous (my name will not be used by the researcher in their research report/manuscript/book chapter)	YES NO
I agree that other researchers may use the information I provide in my interview, but my name and any personal information will not be used or passed on.	YES NO

…… (signature)
…… (name of participant)
…… (date)

…… (signature)
…… (name of researcher/person seeking consent)
…… (date)

INTERVIEW GUIDE – Local Residents

- **Greetings**
- **Research Information and Informed consent (Filling in consent form, introduce myself, what I do, and why we're conducting the interview, and which project the interview is for)**
- **Filling in Register (Gender/Age/Ethnicity/ownership or renting/type of housing/units)**

GENERAL QUESTIONS

1. Where is your place of birth and how did you end up here?
2. Who do you reside with?
3. How long have you stayed in this area?
4. Are you employed/self-employed/Earning any grant?

HOUSING QUESTIONS

1. What are the first things that come to your mind when you think about your house and home ownership?
2. Do you spend most of your time in the house? If no, why? If yes doing what?
3. Where did you stay before you moved into this house? (Structure, urban area, informal settlement etc.) Why did you move here? Is this what you prefer? Why/Why not?
4. How were service rates where you stayed as compared to here? Do you afford to pay for those?
5. Would you say that you are satisfied with this property? (Compared to where you stayed? compared to the price of house/if rental compared to the rent price) What do like more and what do you like less? Why?
6. Has moving here had an impact on your life? How? Which areas of your life did you want this property to change? Has that happened? Which areas are still not changed? What do you think can be done to improve that? What are you doing to close the gap?
7. What are the activities that you do on your property (i.e., Work from home, gardening, sell)?

LOCALITY QUESTIONS

1. Which facilities or social amenities do you use the most in the area? Do you walk or use transport? (If relevant ask about work and schools for children), For how long?
2. Is the area safe? Do you feel safe? Why?
3. Are there any health/police services nearby? Do you think they are accessible? How do you get there and how long does it take for you to get there? Or to get a response?
4. Is there anything you do not like/dislike about the surrounding/why?
5. What other facilities/amenities do you think you need in the area?

COVID RELATED QUESTIONS

1. Has anyone in the house been affected by Covid19? Were they able to isolate?
2. Would you say that the pandemic affected you moving here? (Maybe you've lost your job/maybe you're working from home too often/not too familiar with the surrounding because of lockdowns/never used any amenities etc.)
3. Has the pandemic affected your housing needs? What you think housing should be and what it should be used for?

INTERVIEW GUIDE – Official/s

- **Greetings**
- **Research Information and Informed Consent (filling in the consent form, introduce myself, what I do, and why we're conducting the interview, and which project the interview is for)**

1. How long have you worked in the public housing sector?
2. Has there been any changes with housing delivery between now and 5-10 years ago? What would you say has changed /has not changed?
3. How do you assess the general public/applicants as being in need for housing? Approaches? Tools?
4. Who is involved in processes of assessing needs?
5. Do you engage with the public to know their housing need? Why? Do you think you engage enough with the public to know their housing need? How so/if not what do you think can be done?
6. What do you think subsidised housing should be? Is that what it actually is? Why/Why not?
7. Did the pandemic affect housing delivery in any way? How?
8. Which housing measures to you think were more resilient/sustainable for the pandemic?
9. What about local housing policies, are there any amendments which were made? Which ones?
10. Has allocation and priorities of who was allocated changed? If yes how?
11. Do you ever receive any complaints from people allocated housing after delivery? If yes, what kind of complaints? And how do you address them?
12. In your opinion do you think it is difficult to address housing needs in accordance with what is on paper? why/why not?

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF ARCHITECTURE & PLANNING

08 September 2022

Dear Mogale, Lebogang Lucia

RESEARCH ETHICS CLEARANCE – 1433682

This letter confirms that your clearance application has been approved. Your protocol/clearance number is: SOAP122/07/2022

Yours sincerely

J M Choabi

PP
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