

The spatial distribution of spaza shops in rural versus urban low-income settlements

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PREFACE

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ABSTRACT

Located in low-income settlements, spaza shops significantly contribute to the South African economy yearly, ensuring an estimated 300 000 employment opportunities. Due to the informal nature of spaza shops, the emphasis in formal Planning is rather placed on formal economic activities, resulting in limited knowledge on the spatial distribution of spaza shops. This study aims to investigate the current spatial distribution of spaza shops in urban versus rural low-income settlements as well as the significance of this for Urban Planning. The study employs a sequential exploratory mixed method approach, integrating both qualitative and quantitative data in the research process. During the empirical investigation, various urban and rural case study areas are used to provide a practical perspective on the selected themes from the literature, that may occur in a specific rural versus urban setting. An illustrative comparative analysis of these case studies is subsequently employed, comparing the research results between urban and rural low-income settlements. Findings from these comparisons are then contextualised within the current directives for the spatial distribution of economic activities in South-Africa. The deficiencies, disregard and generalisation of the integration of spaza shops in the South African Planning directives and the national economy are established. These identified challenges may well encourage an acknowledgement and integration of the role and importance of spaza shops in the economy as well as Planning practice.

Key terms: low-income settlements, urban vs rural low-income settlements, sphere of influence, spaza shops, informal economy, economic activities

OPSOMMING

Spaza winkels, wat meestal in lae-inkomste nedersettings voorkom, dra jaarliks grootliks by tot the Suid-Afrikaanse ekonomie en verseker byna 300 000 werksgeleenthede. As gevolg van die informele aard van spaza winkels word die klem in Beplanning meestal op formele ekonomiese aktiwiteite geplaas. Dit lei daartoe dat daar 'n beperkte begrip van die ruimtelike verspreiding van spaza winkels is. Hierdie studie poog om die huidige ruimtelike verspreiding van spaza winkels in stedelike teenoor landelike lae-inkomste nedersettings te ondersoek asook die belangrikheid hiervan vir die stadsbeplanningspraktyk. Die studie maak gebruik van 'n opeenvolgende verkennende gemengde navorsingsmetodologie wat kwalitatiewe en kwantitatiewe data in die navorsingsproses integreer. Tydens die empiriese ondersoek word verskeie stedelike en landelike lae-inkomste gevallestudies gebruik. Die gevallestudies bied 'n praktiese perspektief tot die temas wat vanuit die literatuurstudie geïdentifiseer is, in terme van wat die realiteit in die spesifieke stedelike teenoor landelike omgewings is. 'n Vergelykende analise van die gevallestudies word daaropvolgend gebruik wat die navorsingsresultate tussen stedelike en landelike lae-inkomste nedersettings vergelyk. Die bevindingsresultate van hierdie vergelykings word gebruik om dit te kontekstualiseer in terme van die huidige Beplannings riglyne vir die ruimtelike verspreiding van ekonomiese aktiwiteite in Suid-Afrika. Die tekortkominge, verontagsaming en veralgemening van die integrasie van spaza winkels in die Suid-Afrikaanse Beplanningsdirektiewe en die nasionale ekonomie word vasgestel in die bevindinge. Hierdie geïdentifiseerde uitdagings kan moontlik lei tot die erkenning en die aanmoediging van die integrasie van die rol en belangrikheid van spaza winkels in die ekonomie sowel as die Beplanningspraktyk.

Sleuteltermes: lae-inkomste nederstellings, stedelike teenoor landelike lae-inkomste nedersettings, invloedssfeer, spaza winkels, informele ekonomie, ekonomiese aktiwiteite

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CHAPTER 1: INTRODUCTION TO THE RESEARCH

This chapter entails a background to and problem statement of the research (section 1.1), followed by an introduction to the primary research question (section 1.2), as well as the research aims and objectives for respectively the literature study and empirical investigation (section 1.3). This is followed by a summary of the research methodology employed in both the literature study as well as the empirical study in order to conduct the research (section 1.4). Accompanying this, a delineation of the study areas utilised is indicated (section 1.5), signifying the use of multiple case study areas. The limitations of the research are discussed in the following section (section 1.6), identifying pertinent challenges that may be encountered in the research. Following this, the ethical approval as well as the language editing for this study is declared (section 1.7). A comprehensive chapter division is provided (section 1.8), ascertaining the accompanying research aim and objective outlined in the chapter. Finally, a glossary and a list of definitions are provided (section 1.9), aiding the understanding of the research.

1.1 Introduction and problem statement

An estimated 300 000 employment opportunities are created by spaza shops, contributing approximately R9 billion to the South African economy yearly, as articulated in a 2017 research study led by the University of South Africa (Unisa) Bureau of Market Research (BMR) (Steenkamp, 2019; & Jeeva, 2017). Even though this contribution of spaza shops to the South African economy is significant, the nature of Planning and economics in low-income settlements is difficult to capture due to the general belief that low-income settlements are only temporary before residents migrate to formal settlements (Civil Engineering, 1996:16-18). This belief is a result of underlying issues typical of unemployment, vulnerability and negligent services and shelter (Turok, 2015:11-15).

Furthermore, the emphasis in Planning is placed on formal economic activities and higher-income urban settlements, rather than low-income settlements, where spaza shops thrive (de Beer, 1989:72-81). The residents of low-income settlements are consequently adapting and shaping their settlements in need of self-sufficiency and survival (Steyn, 2008:175-189). Considering this, the Sustainable Livelihood Foundation (2015:4) observed that spaza shops are distributed in an evenly scattered spatial pattern throughout the residential areas of low-income settlements. Therefore, even without adequate formal Planning guidelines, spaza shops are organically evenly distributed, allowing for equal access to these low-income economic activities (Sustainable Livelihood Foundation, 2015:4).

This phenomenon is motivated by the theory of Institutional Economics, initiated by economist Elinor Ostrom (1990/2000). In general economic terms, spaza shops may be categorised as a

common-pool resource. Common-pool resources (in contrast with public goods) are finite resources that will be exhausted with use and therefore endorse competition amongst distributors (Hodgson, 2013:381). Considering that the use of a common-pool resource cannot be restricted, and excessive usage may degrade the resource, government interference is usually provoked (Hodgson, 2013:381). Ostrom (1990, 2000) opposes this theory in Institutional Economics, arguing that, especially in developing countries (Hodgson, 2013:381), cooperation, management and institutional arrangements of the community are more adequate solutions (Frischmann, 2013:5) to ensure effective management of common-pool resources (Hodgson, 2013:382); therefore affirming the economic feasibility of spaza shops with no government interference.

This phenomenon concerning the spatial distribution of spaza shops in low-income settlements is reminiscent of the Central Place Theory of Walter Christaller, where a hierarchy, or spatial distribution of products, results from competitive market forces within a market area (Henderson *et al.*, 2000:719-733). As identified in this theory (Hafeez Sedenu *et al.*, 2016:3), a direct relationship exists between the offered economic activity, the population supporting the economic activity, and the size of the node. Applying the Central Place Theory (Abiodun, 1971:78-93) in establishing this market area, the size and spatial relationship for spaza shops, the sphere of influence, the threshold population and the range of goods and services of the spaza shops should be determined. In accordance with the Central Place Theory, the size of the node ought to determine the degree of influence the economic activity portrays, but various other socio-economic factors will also have an impact on the range of the sphere of influence (Wilkinson & Butt, 2013:75-80).

Considering this, the Central Place Theory suggests perfect competition is required in a market structure for economic activities to be economically feasible. Krugman (1992:10), however, opposes this in avoiding any direct assumption of externalities emerging as a result of market interactions of the economies of individual economic activities, encouraging an imperfectly competitive market structure for economic activities to be feasible. Imperfect competition implies that at least one of the four assumptions defining perfect competition does not apply (Gabszewicz & Thisse, 2000:47). The competitive market of spaza shops may, therefore, be categorised as a monopolistic competition: a type of imperfect competition, indicating competition to an extent, yet also considered a monopoly in nature (Viljoen, 1998:191), having market power over the realm of consumers.

Reminiscent to this, an agglomeration of economic activities arises when a clustering of economic activities allows for an assortment of benefits, increasing the productivity and economic growth of the economic activities (Giuliano *et al.*, 2019), as well as surrounding economic activities to cluster together (Duranton & Kerr, 2015:2). Spaza shops, being economic activities in related industries, also cluster together. Marshall (1890/1920) motivated this phenomenon using an example of food

courts. Similar economic activities (for instance restaurants) cluster together, benefiting from factors exogenous to agglomeration externalities, including entrepreneurs, rather than benefiting from the presence of other economic activities (McCann & Folta, 2008:535). Economic activities and entrepreneurs may then endogenously generate externalities from the location decisions of the facilities (McCann & Folta, 2008:535). Therefore, agglomeration externalities arise from access to labour, inputs, knowledge spillover and demand (McCann & Folta, 2008:536).

Considering this phenomenon from a spatial planning perspective, it is essential to keep Planning legislation in mind. In South Africa, all spatial planning legality is regulated by The Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA). The Local Government: Municipal Systems Act 32 of 2000 (MSA) requires the compilation of a Spatial Development Framework (SDF), including the provision of basic guidelines for a land use management system for municipalities, as stipulated in Section 26(e), with the aim to provide a legislative framework for spatial planning in local municipalities. Following the MSA, SPLUMA was promulgated in 2013 and is a national legislative act that addresses previous spatial imbalances by unifying spatial planning and land use management, as well as economic and social cohesion. It necessitates the compilation of SDFs to administer these solutions, and further specifies the particular requirements for SDFs. It mandates that all municipalities develop an SDF that adheres to specific standards established in Article 21 of SPLUMA. SPLUMA also defines principles and criteria for spatial planning in South Africa in Article 3(f), requiring that efficient spatial planning is offered to address social and economic inequalities (Spatial Planning and Land Use Management Act 16 of 2013). These social and economic inequalities may largely be attributed to the heritage of Apartheid, that still has a significant impact on spatial planning in South Africa and resulted in a unique urban morphology (Smith, 1992:1) known as the Apartheid City (Davies, 1981:69). This unique urban morphology resulted in an array of significantly diverse urban and rural settlements in South Africa where uneven growth and expansion complicates Spatial Planning. SDFs aims to address these spatial inequalities in South African urban and rural settlements and support SPLUMA's principles by providing direction to the spatial conceptualisation and development of settlements. Consequently, due to the existing segregation and inequalities in the provision of infrastructure, impacting directly on the development and evolvement of urban and rural settlements, there is a high demand for spatial planning in previously disadvantaged and low-income settlements in South Africa.

Further to the preceding legislative context for Spatial Planning, current guidelines for the spatial distribution of economic activities, as proposed in the Guidelines for Human Settlement Planning and Design (CSIR, 2000:1), also exist to ensure that the needs of residents are fulfilled through development, and to optimise access to economic activities that will allow for equal access to opportunities. Prinsloo's (2010:66) Classification and Hierarchy of Retail Facilities in South Africa

attempts to ascertain and delineate these determinants of spheres of influence for retail facilities in South Africa, including spaza shops. Considering this, it is presently uncertain whether these guidelines are optimal in allowing for a diaspora of economic activities, including spaza shops, in urban and rural low-income settlements. These guidelines are also exceedingly vague in distinguishing between the diverse economic activities of urban and rural low-income settlements, with no indication of whether or how current economic activities may influence the spatial distribution of spaza shops.

The purpose of this study is, therefore, to investigate the current spatial distribution of spaza shops in urban and rural low-income settlements as well as the significance of this for Urban Planning. The study further aims to establish whether the specified spheres of influence and classification, as recommended by Prinsloo (2016:1-60), as well as the guidelines for spatial distribution, as depicted in the Guidelines for Human Settlement Planning and Design (Department of Human Settlements, 2019), realistically relate to the reality reflected in the distribution of spaza shops in both urban and rural low-income settlements. Finally, the study proposes to determine the spheres of influence of spaza shops in various low-income settlements, including both urban and rural case study areas. The results are mapped, and a comparative analysis is employed, comparing the research results between urban and rural low-income settlements as well as contextualising this within the current Guidelines for Human Settlement Planning and Design (Department of Human Settlements, 2019) and the Classification and Hierarchy of Retail Facilities in South Africa (Prinsloo, 2016:1-60).

1.2 Primary research question

The primary research question is: How does the spatial distribution of spaza shops in urban and rural low-income settlements compare and why is this significant for Urban Planning?

1.3 Research aims and objectives

This research aims to investigate the current spatial distribution of spaza shops in urban and rural low-income settlements as well as the significance of this for Urban Planning.

Table 1-1 illustrates the research objectives, in accordance with the accompanying method, phase and chapter, elucidating the specific aims and objectives.

Table 5-1: Research objectives

Research Objective (Refer to Chapter 1, section 3)	Methods (Refer to Chapter 1 sections 3.1 and 3.2)	Phases	Chapters (Refer to Chapter 1, section 7)
1. Provide an overview of economic activity in urban and rural low-income settlements in South Africa and contextualise the role and importance of spaza shops within these economies.	Literature Study	<u>Phase 1</u> Collect data Filter collected literature Analyse data Reduce data Present results	<u>Chapter 3</u> Economic activity in urban and rural low-income settlements in a South African Context: the role and importance of spaza shops
2. Provide a theoretical context to the role and importance of economics in Planning.			<u>Chapter 4</u> The role and importance of economics in Planning
3. Provide an overview of the current directives regarding the spatial distribution of economic activities and spaza shops in South Africa.			<u>Chapter 5</u> Current directives on the spatial distribution of economic activities in South Africa
4. Determine the difference between the location and spatial distribution of spaza shops in urban versus rural low-income settlements.	Empirical Investigation	<u>Phase 2</u> Case studies Geo-spatial imagery Mapping Calculations Statistical analysis	<u>Chapter 6</u> The spatial distribution of spaza shops in rural versus urban low-income settlements
5. Compare the empirical research results between urban and rural low-income settlements and contextualise this within the current directives for the spatial distribution of economic activities in South-Africa.	Conclusions and Recommendations	<u>Phase 3</u> Conclude and recommend based on phase 2 and 3	<u>Chapter 7</u> Conclusions and recommendations

Source: Own composition, (2022)

1.3.1 Research objectives for the literature study

- 1) provide an overview of economic activity in urban and rural low-income settlements in South Africa and contextualise the role and importance of spaza shops within these economies.
- 2) provide a theoretical context to the role and importance of economics in Planning.
- 3) provide an overview of the current directives regarding the spatial distribution of economic activities and spaza shops in South Africa.

1.3.2 Research objectives for the empirical investigation

- 4) determine the difference between the location and spatial distribution of spaza shops in urban versus rural low-income settlements.
- 5) compare the empirical research results between urban and rural low-income settlements and contextualise this within the current directives for the spatial distribution of economic activities in South-Africa.

1.4 Methodology

1.4.1 Literature study

The research design for this study will follow a mixed-method approach. This means that both qualitative and quantitative data are combined within a single study in an attempt to gain a more adequate understanding of the research problem. These methods complement each other, allowing for a more robust analysis, integrating the strengths of both methods (Green *et al.*, 1989; Miles & Huberman, 1994; Green & Caracelli, 1997; Tashakkori & Teddlie, 1998). In employing the mixed-method approach in this study, a sequential exploratory methodology is used. This methodology comprises three stages of analysis: firstly, during the literature study, the qualitative data are collected and analysed with the aim to (secondly) inform and initiate the second stage entailing the collection and analysis of quantitative data as part of the empirical investigation. During the third and final stage, the qualitative and quantitative data are combined, integrated and interpreted to present findings and conclusions on the research problem (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2008; Onwuegbuzie *et al.*, 2010).

In the literature study, qualitative data is 1) collected, 2) reduced and 3) analysed by means of a literature review in the format of a thematic synthesis (Xiao & Watson, 2019:101). Firstly, during

the collection of the qualitative data, a variety of collection methods were used, including a database search (Farthing, 2016:46; Xiao & Watson, 2019:103-104), an electronic search (Randolph, 2009:6-7), library catalogues (Mouton, 2001:88), library books (Denney & Tewksbury, 2012:10), a reference search (Randolph, 2009:6-7; Xiao & Watson, 2019:104) and expert assistance (Randolph, 2009:6-7). Subsequently, the collected literature was filtered by conducting an assessment of the quality of the literature (Farthing, 2016:65; Xiao & Watson, 2019:98). Secondly, the collected literature was reduced by means of a process of coding (Saldaña, 2016). Coding is the process of organising segments of text data into smaller units by applying relevant criteria. The researcher examines the text, marking it with codes (labels) describing it, aiming to categorise the data into a manageable number of themes (Cohen *et al.*, 2018:668). Thirdly, as part of the thematic synthesis, the data are analysed by employing a thematic synthesis (Thomas & Harden, 2008:3; Joffe & Yardley, 2004:57; Vaismoradi *et al.*, 2013:399-400). Finally, the results of stage one of the research (the literature study) are summarised and presented in a matrix/table (Xiao & Watson, 2019:98) that is used to initiate and inform stage two of the research, subsequently discussed.

1.4.2 Empirical investigation

The qualitative and quantitative nature of the data in this research study validate the employment of a sequential exploratory methodology. Consequently, in stage two of this research (the empirical investigation), the results of the thematic synthesis in stage one (qualitative data) are used to inform the collection of quantitative data in the empirical research with the aim of exploring the findings of the literature study (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2008; Onwuegbuzie *et al.*, 2010; Byrne & Humble, 2007:3).

The data for stage two of the research was collected by employing a selection of quantitative methods, including 1) case studies (MacCallum *et al.*, 2019:49; Yin, 2018:xx-xxi), 2) geo-spatial imagery (MacCallum *et al.*, 2019:67), 3) mapping (Schiewe, 2015:13) and 4) statistical analysis (Wetcher-Hendricks, 2011:3-31; Cramer, 2003:5). The case studies are used to provide a practical perspective on the selected themes from the literature that may occur in a specific rural or urban setting (MacCallum *et al.*, 2019: 49; Yin, 2018:xx-xxi). Data gathering for the case studies entailed observations as well as a desk-top study (Nayak & Singh, 2015:136). Further to this, geo-spatial imagery was used to collect web-based geo-spatial data in a raw format, allowing for an analysis of spatial changes (MacCallum *et al.*, 2019:67) in the location of spaza shops, in both the urban and rural low-income case studies. The case studies selected for the purpose of this study comprise a selection of both urban and rural low-income areas including Jan Kempdorp, Ikageng, Kanana, Agisanang, Misgund and Ganyesa. A comparative analysis of these case studies is employed, comparing the research results between urban and rural low-income settlements. The quantitative data abstracted from these case studies were subsequently

mapped using Geographic Information System (GIS) software, ensuring a visual cartographic representation of the phenomena found in the case studies, conceptualising the spatial reality in the case studies (Schiewe, 2015:13). Following this, a statistical analysis of the spheres of influence is employed, consequently providing a basis for evaluating the mapped data (Wetcher-Hendricks, 2011:3). The statistics of differentiated case study data are ultimately compared or merged (Wetcher-Hendricks, 2011:21).

During the third and final stage of this study, the qualitative and quantitative results from stages one (literature study) and two (empirical investigation) are integrated and interpreted to present findings and conclusions on the research problem (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2008; Onwuegbuzie *et al.*, 2010).

1.5 Delineation of the study area

This study compares the spatial distribution of spaza shops as well as the economic activities in urban and rural low-income settlements. Considering this, numerous case study areas are used in this research, providing a comprehensive understanding of the differences or similarities between urban and rural low-income settlements. The case study areas are Jan Kempdorp, Ikageng, Kanana, Agisanang, Misgund and Ganyesa, with Jan Kempdorp, Ikageng and Kanana as the urban case study areas and Agisanang, Misgund and Ganyesa as the rural case study areas.

1.6 Limitations of the research

The study's limitations mainly fall under two categories: 1) the selection of case study areas as well as the availability of data, and 2) the literature used for the study. Firstly, the accessibility and availability of reliable data influenced the case study selection. The study relies heavily on obtaining data from Quantec Easydata. However, due to outdated census data, projections are utilised to grow current data through mathematically sound historical growth rates. Although mathematically sound, growth rate projections may result in over- or under-estimations. Further to this, it is important to note the inaccuracy in the census data, with an estimated undercount of 10.7%, 17% and 14.6% for the censuses of 1996, 2001 and 2011, respectively (Gumbo & Odimegwu, 2016:2). Considering this, data are imperative for this study in order to ensure an all-encompassing perspective on the case study areas. In the selection of the case study areas, it was also challenging to gain access to the areas, as the data collection process was conducted during COVID-19. Therefore, case study areas with easy access were utilised. When access to certain case study areas could not be obtained, a desk-top approach was employed.

As spaza shops are not a stagnant economic activity, it is probable that the spaza shops collected for this study may close during the time of analysis, while other spaza shops may be established.

Therefore, the spaza shops that was available for the time of data collection is used in this study. For some case study areas, data were obtained by driving through the settlement and mapping the spaza shops. This may also influence the data, as all the spaza shops could not necessarily be mapped.

There is a multitude of applicable literature and theories available in Planning as well as economics, but a limited number of these relate directly to the interface between Planning and economics. These theories may also sometimes contradict one another; therefore, the researcher's judgement informed by expert supervision was employed to select the theories applied in this study. Some of the selected literature, nonetheless, comprise various limitations that may influence the study. These limitations are mentioned throughout the study, as the study attempts to address some of the limitations.

It is also important to acknowledge that Planning and economic literature and theories respectively use different terminologies for the same term. Therefore, terms were standardised as far as possible for the purpose of this study, while still trying to maintain the integrity of both planning and the economy.

1.7 Ethics approval and language editing

This research study is ethically approved by the North West University's Faculty of Natural and Agricultural Sciences Ethics Committee (Ethics number: NWU-00544-21-A9). Refer to Annexure B for the ethics approval letter. The study is characterised as a "minimal risk" study, with no human participants participating in the study.

Furthermore, the study was professionally proofread and language edited. Refer to Annexure C for the Certificate of Editing.

1.8 Chapter division

Table 1-2 visually summarises the chapter divisions for this research study. This is merely to orientate the reader.

Table 5-2: Chapter divisions

CHAPTER 1: INTRODUCTION TO THE RESEARCH	
1. Introduction and problem statement 2. Primary research question 3. Research aims and objectives 4. Methodology 5. Delineation of the study area	6. Limitations of the research 7. Ethical approval and language editing 8. Chapter division 9. Glossary and definitions
THEORETICAL FOUNDATION	
CHAPTER 2: RESEARCH METHODOLOGY	
1. Introduction 2. Mixed method research approach 3. Literature study	4. Empirical investigation 5. Summary
LITERATURE STUDY	EMPIRICAL INVESTIGATION
CHAPTER 3: ECONOMIC ACTIVITY IN URBAN AND RURAL LOW-INCOME SETTLEMENTS IN A SOUTH AFRICAN CONTEXT: THE ROLE AND IMPORTANCE OF SPAZA SHOPS	CHAPTER 6: THE SPATIAL DISTRIBUTION OF SPAZA SHOPS IN RURAL VERSUS URBAN LOW-INCOME SETTLEMENTS
1. A background to the establishment and classification of urban and rural low-income settlements in the South African context 2. The economies of urban and rural low-income settlements in South Africa 3. Role and importance of spaza shops in low-income settlements 4. The economics of the spatial location of spaza shops 5. Summary	1. Detailed empirical methodology 2. Background and rationale for the selection of case studies 3. Revisiting the current directives relating to spatial planning 4. Status quo of the spatial distribution of spaza shops in case study areas 5. Mapping of the current sphere of influence guidelines 6. Visual optimal sphere of influence for different case study areas 7. Calculated optimal sphere of influence for different case study areas 8. Findings: a comparison of the empirical results with current guidelines 9. Comparison: spatial distribution of spaza shops in urban vs rural low-income settlements
CHAPTER 4: THE ROLE AND IMPORTANCE OF ECONOMICS IN PLANNING	
1. Theoretical background to economics in Planning 2. Institutional Economics 3. New Economic Geography 4. Central Place Theory 5. Summary	
CHAPTER 5: CURRENT DIRECTIVES ON THE SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITIES IN SOUTH AFRICA	
1. Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA) 2. The Classification and Hierarchy of Retail Facilities in South Africa 3. Guidelines for retail facilities in low-income settlements according to the CSIR Guidelines for Human Settlement Planning and Design 4. Summary of directives 5. Theoretical matrix	

CONCLUSIONS AND RECOMMENDATIONS
CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS
1. Objective 1 2. Objective 2 3. Objective 3 4. Objective 4

Source: Own composition (2022)

- **Chapter 1: Introduction to the research**

Provides the problem statement and substantiation for the research, the research aims and objectives, a delineation of the case study areas, and overview of limitations to the research.

- **Chapter 2: Research methodology**

Comprehensively describes the research design with a detailed explanation of the specific qualitative and quantitative methods to be employed in the research study.

- **Chapter 3: Economic activity in urban and rural low-income settlements in a South African context: the role and importance of spaza shops**

Provides an overview of economic activity in urban and rural low-income settlements in South Africa and contextualises the role and importance of spaza shops within these economies.

- **Chapter 4: The role and importance of economics in Planning**

Provides a theoretical context to the role and importance of economics in Planning with a specific focus on the theory of Institutional Economics, New Economic Geography and the Central Place Theory.

- **Chapter 5: Current directives on the spatial distribution of economic activities in South Africa**

Provides an overview of the current directives regarding the establishment and spatial distribution of economic activities and spaza shops in South Africa, specifically focusing on SPLUMA, The Classification and Hierarchy of Retail Facilities in South Africa and the guidelines for retail facilities in low-income settlements according to the Guidelines for Human Settlement Planning and Design.

- **Chapter 6: The spatial distribution of spaza shops in rural versus urban low-income settlements**

Introduces the empirical investigation with a background to and motivation for the selected case studies, subsequently mapping the spatial distribution of spaza shops in these areas. The chapter further determines the difference between the location and spatial distribution of spaza shops in rural versus urban low-income settlements.

- **Chapter 7: Findings and conclusions**

Compares the empirical research results between urban and rural low-income settlements and contextualises this within the current guidelines for the spatial distribution of economic activities in South Africa. The qualitative and quantitative results from the literature study and empirical investigation are also integrated and interpreted to present findings and conclusions on the research problem. Recommendations are also provided on the spatial distribution and spheres of influence of spaza shops in urban and rural low-income settlements.

1.9 Glossary and definitions

A glossary of all the acronyms used in this study is recapitulated in Table 1-3.

Table 5-3: Glossary of acronyms

Acronym	Definition
ANC	African National Congress
BMR	Bureau of Market Research
CBD	Central Business District
CSIR	Council for Scientific and Industrial Research
GDP	Gross Domestic Product
GIS	Geographic Information System
IDP	Integrated Development Plan
ILO	International Labour Organisation
LSM	Living Standard Measure
LUS	Land Use Schemes
MSA	Municipal Systems Act 32 of 2000
NAMC	National Agricultural Market Council

Acronym	Definition
RMB	Rand Merchant Bank
SDF	Spatial Development Framework
SPLUMA	Spatial Planning and Land Use Management Act 16 of 2013
UN	United Nations
UN-HABITAT	United Nations for Human Settlements and Sustainable Urban Development
Unisa	University of South Africa
VAT	Value-added tax

Source: Own Compilation (2022)

A table of definitions of various word used in this study that may cause confusion in this study is recapitulated in Table 1-4.

Table 5-4: List of Definitions

Term	Definition	Source
Economic activities	Resource management, production of goods and services, distribution of goods and services, and consumption of goods and services are the four basic economic activities.	(Goodwin, <i>et al.</i> , 2013:1)
Retail facilities	Retail facilities entails the sale of goods directly to consumers, as opposed to wholesale commerce, which is the sale or purchase of goods in bulk to or from warehouses, depots, or bulk carriers to enterprises.	(Hong Kong Planning Department, 2021:1)
Low-income settlements	Often located on the periphery of the urban fringe, low-income settlements are characterised by a lack of: 1) land ownership, 2) secure land tenure, and 3) formal boundaries. Therefore, these settlements are generally self-	(Collins <i>et al.</i> , 2006:6; Atkinson, 2014:5; Mathebula <i>et al.</i> , 2017:19; Marutlulle, 2017:2; SERI, 2018:5; & Chenwi, 2012:540)

Term	Definition	Source
	constructed, high-density settlements with poor housing, a lack of service delivery, generally low-income levels and being dependent on natural resources.	
Human Settlement	A human settlement is described as a place for people to live, work, socialise, relax and shop. The location, distribution, size, and socio-economic characteristics of human settlements differ, while still including a built environment, a natural environment, services and residents. A human settlement is not defined by function, size or its characteristics, due to cities, towns and villages being referred to as a human settlement.	(CSIR, 2019:13)
Urban settlements	Usually consist of all non-metropolitan areas, including secondary and tertiary towns.	(Collins <i>et al.</i> , 2006:6: Atkinson, 2014:5; & Mathebula <i>et al.</i> , 2017:19)
Rural settlements	Usually comprise of a population sparsely distributed, with the residents primarily dependent on the natural resources, including dispersed villages and small towns. These settlements mainly lack an economic centre.	(Collins <i>et al.</i> , 2006:6: Atkinson, 2014:5; & Mathebula <i>et al.</i> , 2017:19)
Informal / rural low-income settlements	It is also apparent that it is generally assumed that rural settlements have to generate its own economic activities with limited or no access to formal economic activities/urban areas. It is assumed that rural low-income settlements are not situated close to other economic centres and do	Own assumptions based on (Atkinson, 2014:5)

Term	Definition	Source
	not have access to urban/formal economic centres. Rural settlements are mostly surrounded by villages and farms and are mostly economically driven by agriculture. Rural low-income settlements are mostly dependent on their own (informal) economy to generate income/economic activities due to not being located near formal/urban economic activities. These settlements are mostly reliant on informal economic activity for income/employment.	
Formal / urban low-income settlements	It is also apparent that it is generally assumed that urban settlements are associated with both formal and informal economic activities Assumptions were made in terms of urban low-income settlements being located on the periphery of formal economic settlements (urban areas) and having access to economic centres. It is assumed that urban low-income settlements partake in both formal and informal economic activities. Residents have access to both formal and informal economic activities/employment and also have access to urban areas.	Own assumptions based on (Turok, 2015:13)
Informal economy	Persists outside standard legislation but is intimately connected to the formal regulated economy. It is generally associated	(Neuwirth, 2011:16; & Van Rooyen and Antonites, 2007:334)

Term	Definition	Source
	with urban and rural low-income settlements and founded upon limited turnover and minor income levels. The informal sector does not form part of the formal economy, it is not regulated by the government, is not legal and not taxable.	
Formal economy	Economic activities with the formal economy are mostly legally registered for tax and regulated by the government.	(Atkinson, 2014:11).

Source: Own Compilation (2022)

CHAPTER 2: RESEARCH METHODOLOGY

In this Chapter, the research methodology employed in completing this study is discussed in detail. An introduction to the research is provided (section 2.1), followed by a section regarding the mixed-method approach (section 2.2). This study uses this approach, following a sequential exploratory methodology (section 2.2.1). For the purpose of this study, the literature study (section 2.3) comprises a qualitative method (section 2.3.1), while the empirical investigation (section 2.4) comprises a quantitative method (section 2.4.1.). Finally, a conclusion is provided for the research methodology chapter (section 2.5).

2.1 Introduction

Research most commonly signifies the search for knowledge, a systematic exploration of information regarding a specific phenomenon (Nayak & Singh, 2015:1). It is the contribution to existing knowledge, while finding solutions to evident gaps in existing research in order to enhance it (Nayak & Singh, 2015:1). This is completed with the collection, analysing and interpreting of data in order to significantly improve the understanding and control of a specific phenomenon in practice (Mackenzie & Knipe, 2006:2). Therefore, the main aim of research is to explore the undiscovered truths in questions and problems through the use of scientific procedures, in order to enhance familiarity or gain new insight into a specific phenomenon (Pandey, P. & Pandey, M.M., 2015:9). It requires curiosity; an eagerness to learn; an inquisitive, open and critical mind; as well as an intuitive sense and awareness for insufficient knowledge and a gap in existing research. Research is objective, critical, sceptical, carefully executed, and always attempts to find connections and patterns in data and research (Machi & McEvoy, 2009:6-7).

Considering the importance of research, the process of researching a phenomenon is significant in order to elevate the research. Methodology is regarded as the procedural process of research (MacCallum *et al.*, 2019:7). It may be defined as the principles and theories used in the research process, the framework for the methods used in conducting research and the reason for the specific method (MacCallum *et al.*, 2019:10-11). Different research problems require different methodologies, with every methodology embodying different strengths and weaknesses. The knowledge and available information, the beliefs of the researcher, and the accessibility of data influence the selection of which methodology to use in research (Nayak & Singh, 2015:1).

For the purpose of this study, it is essential to illuminate the methodology used, in order to elevate the significance of the research, and to ensure an optimal solution to the research problem and research question. Elucidated in Figure 2-1, it is evident that this research study employs a mixed-

method research approach, combining qualitative and quantitative methods in a sequential exploratory methodology.

MIXED METHOD RESEARCH APPROACH

(Green, Caracelli, and Graham 1989; Miles and Huberman 1994; Green and Caracelli 1997; Tashakkori and Teddlie 1998)

SEQUENTIAL EXPLORATORY METHODOLOGY

(Creswell and Plano Clark 2011; Teddlie and Tashakkori 2008; Onwuegbuzie, Bustamante, and Nelson 2010)

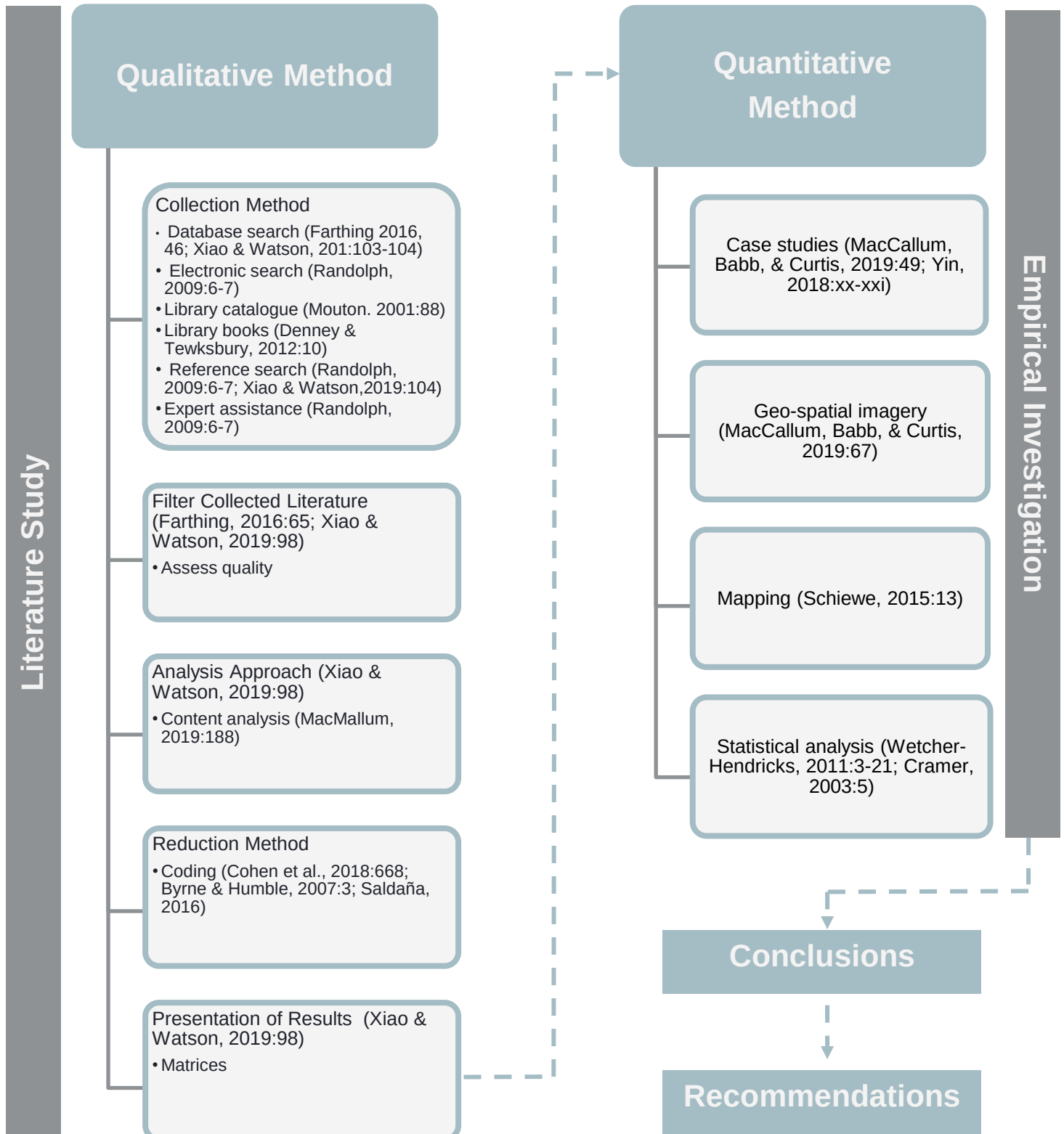


Figure 5-1: Research Methodology

Source: Own Composition (2022)

In Figure 2-1 the methodology employed in this study is illustrated, capturing the use of both qualitative and quantitative methods. The literature study utilises a qualitative method, while the empirical investigation utilises a quantitative method. Using a combination of qualitative and quantitative data, the research problem may be concluded, followed by recommendations regarding the research problem. This methodology is critically discussed, firstly elaborating on the use of a mixed-method research approach, followed by an explanation of the sequential exploratory methodology, including both qualitative and quantitative methods.

2.2 Mixed method research approach

In research, three approaches are commonly used, namely qualitative, quantitative and mixed method approaches (Williams, 2007:65). In order to select an appropriate approach, it is important to establish the data required to answer the research question. Either numerical data is required, textual data, or a combination of both (Williams, 2007:65). In selecting a qualitative approach, primarily textual data is used, while numerical data is mostly used in a quantitative approach. Considering this, a mixed-method approach requires the use of both textual and numerical data, ensuring the integration of both qualitative and quantitative data (Mackenzie & Knipe, 2006:9). For the purpose of this study, a mixed-method approach is employed in order to optimise the utilisation of data directly affecting the outcome of the study.

In a mixed-method approach, both qualitative and quantitative methods are used in the accumulation of data, in order to answer the research question (Byrne & Humble, 2007:1). Both methods are adduced, combining the validity and reliability of both (Cohen *et al.*, 2018:46), thus providing an adequate understanding of the research question and problem (Cohen *et al.*, 2018:32). In a mixed-method approach, both qualitative and quantitative methods are mutually significant, ensuring that the research question is sufficiently answered (Cohen *et al.*, 2018:47). With research problems not always exclusively being qualitative or quantitative in nature, only using one of these methods may not ensure comprehensive findings on the research question and problem (Creswell & Clark, 2011:10).

Qualitative and quantitative methods are not always sufficient to capture patterns and detailed information by themselves in a research study. Contemplating this, it is more effective to use a combination and integration of these methods since the methods may complement one another in order to ensure a more robust analysis, while combining the strengths of both methods (Ivankova *et al.*, 2006:3). This is also evident in the fact that the practical world outside of research is not merely qualitative or quantitative (Cohen *et al.*, 2018:31). Further to this, in merely using a single method, the collection of data may have limitations, and as previously mentioned, these methods may complement one another when integrated, neutralising the disadvantages of each method (Byrne & Humble, 2007:1). Byrne and Humble (2007:1) further elaborate on this,

recognising the complexity of social phenomena, and how the use of a mixed-method approach may provide more adequate explanations for contradictory findings that may arise with the use of different methods.

Data for a mixed-method approach may either be collected concurrently or sequentially, indicating that the data is either collected simultaneously, or separately and independently (Cohen *et al.*, 2018:45). The integration of the data may also occur at one or more stages in the process of the research (Byrne & Humble, 2007:2). In a concurrent design the qualitative and quantitative data are collected and analysed simultaneously and independently, and therefore the one does not influence the other (Schoonenboom & Johnson, 2017:114). In contradiction to this, a sequential design indicates that the collection and analysis of the qualitative and quantitative data follow one another, and the outcomes of the one method depend on the outcome of the other method (Schoonenboom & Johnson, 2017:114). Therefore, in a concurrent design, qualitative and quantitative data are collected and analysed parallel to one another, while a sequential design involves multiple phases of data collection and analysis, with either one of the methods dominant (Kroll & Neri, 2009:40-45).

Creswell (2006:59) identifies four different types of mixed-method designs, including 1) triangulation design, 2) embedded design, 3) explanatory design, and 4) exploratory design. The triangulation design acquires different yet complementary data on the same topic, enabling a direct comparison of qualitative and quantitative findings (Creswell, 2006:62). In considering an embedded design, one method provides a supportive role towards the other method in a study, requiring one method to answer a research question within the other, superior method (Creswell, 2006:67). For the explanatory design, Creswell (2006:71) highlights a two-phased method, with the qualitative data explaining and elaborating on the quantitative findings. In contradiction to this, an exploratory design indicates the use of a qualitative method to develop or inform the quantitative method (Creswell, 2006:75).

These designs may either be concurrent or sequential, depending on the sequence of the data collection, the priority of the method, the stage of integration, and the theoretical perspective (Kroll & Neri, 2009:39). Elucidated in Figure 2-2, six primary mixed-method research designs are identified.

Design type	Implementation	Priority	Stage of integration	Theoretical perspective
<i>Sequential explanatory</i>	Quantitative followed by qualitative	Usually quantitative but can be qualitative or equal	Interpretation phase	May be present
<i>Sequential exploratory</i>	Qualitative followed by quantitative	Usually qualitative but can be quantitative or equal	Interpretation phase	May be present
<i>Sequential transformative</i>	Either qualitative followed by quantitative or quantitative followed by qualitative	Qualitative, quantitative or equal	Interpretation phase	Definitely present (i.e. conceptual framework, advocacy, empowerment)
<i>Concurrent triangulation</i>	Concurrent collection of quantitative and qualitative	Preferably equal, but can be quantitative or qualitative	Interpretation or analysis phase	May be present
<i>Concurrent nested</i>	Concurrent collection of quantitative and qualitative	Quantitative or qualitative	Analysis phase	May be present
<i>Concurrent transformative</i>	Concurrent collection of quantitative and qualitative	Qualitative, quantitative or equal	Usually analysis phase but can be during the interpretation phase	Definitely present (i.e. conceptual framework, advocacy, empowerment)

Figure 5-2: Mixed-Method Research Design Options

Source: Creswell *et al.* (2003:179)

Considering the various mixed-method research design possibilities provided in Figure 2-2, this study employs a sequential exploratory methodology. This will be further elaborated on in the following section.

2.2.1 Sequential exploratory methodology

In employing a mixed-method approach in this study, a sequential exploratory methodology is used. In a sequential mixed-method approach, one stage of the research mainly influences the subsequent stage, with findings of both stages synthesised to ensure a comprehensive conclusion to the research (Cohen *et al.*, 2018:47). This may either signify a quantitative method influenced by a qualitative approach, or vice versa, mainly subjective to the research problem and

question (Cohen *et al.*, 2018:39). As elucidated in the previous section (c.f. Figure 2-2 in section 2.2), a mixed-method sequential design may either be explanatory, or exploratory.

Ivankova *et al.* (2006:4) support the use of a mixed-method sequential explanatory methodology, articulating the collection and analysis of firstly quantitative data, subsequently influencing the qualitative data in two consecutive phases. Therefore, the characteristics and findings of the quantitative data describe and influence the literature. Findings from the qualitative study explain and contextualise the findings from the quantitative study (Kroll & Neri, 2009:41). The literature in a sequential explanatory methodology is therefore used to “explain” the quantitative findings (Schoonenboom & Johnson, 2017:125).

In contrast, a mixed-method sequential exploratory methodology requires qualitative data to explore a phenomenon, followed by the collection of quantitative data in order to explain the connections and relations discovered in the literature (Byrne & Humble, 2007:3). The sequence of data collection is, therefore, opposite to the sequential explanatory methodology (Cohen *et al.*, 2018:39). This methodology mostly does not comprise an initial hypothesis but is rather used to develop a hypothesis through the literature, or to formulate a research problem for a more defined investigation (Nayak & Singh, 2015:63). Three stages of analysis are exerted in this methodology, with a primary qualitative phase, a secondary quantitative phase, followed by an integration phase that essentially connects the qualitative and quantitative data while reflecting on the initial qualitative findings (Berman, 2017:6). This methodology is commonly used in phenomena without significant knowledge on the subject, while preceding theories do not comprehensively illuminate the subject (Nayak & Singh, 2015:63). Therefore, in a sequential exploratory methodology, the literature on a phenomenon is “explored” in order to formulate a hypothesis, while the quantitative data is “explored” in order to explain the findings of the qualitative data (Byrne & Humble, 2007:3)

A sequential exploratory methodology is more flexible in nature, with consequently less control over the variables. Therefore, the flexibility of the exploration of qualitative data, due to the fixed characteristics of the literature/theory, as well as the development of a hypothesis, are inherently in balance with various quantitative approaches (Kroll & Neri, 2009:37). With the phases conducted sequentially, this methodology is also easier to describe and implement (Terrell, 2012:264; Plano *et al.*, 2007:182). Considering that the emphasis is mainly placed on the qualitative phase, the exploration of the qualitative phase may consequently ensure more acceptable quantitative data (Creswell, 2006:78).

In contradiction, a sequential exploratory design may also entail numerous challenges. With this methodology requiring two phases, it may be time-consuming (Creswell, 2006:78; Terrell, 2012:264), while simultaneously calling for a determination of the variables required for the quantitative phase during the progression of the qualitative phase (Creswell, 2006:79).

In order to ensure reliability and validity of the variables, sound procedures and methods are required during the qualitative phase, determined by the preceding theories and literature (Creswell, 2006:79).

The qualitative and quantitative nature of the data in this research study validates the employment of a sequential exploratory methodology. This is justified due to the sequential exploratory methodology firstly exploring a topic before determining the variables required to be measured in the empirical study (Mihas & Odum Institute, 2019:2). With the field of research for this study being relatively novel, especially in South Africa, literature on this topic is limited. Therefore, a comprehensive exploration of the literature is necessary to provide a thorough understanding of the topic.

2.3 Literature study

In a literature study, published research from various scholars is systematically collected, ensuring an adequate basis for elevating the knowledge and facilitating theory development subjective to the phenomenon being researched (Snyders, 2019:333). It is a written argument promoting the development of a theory with the use of reliable sources in order to validate the research conducted (Machi & McEvoy, 2009:4). It provides a map while assessing research on the phenomenon in order to motivate the study and validate the research problem and question (Snyders, 2019:334). MacCallum *et al.* (2019:57) motivate the importance of a literature study, to assist in an enhanced understanding of the topic, while establishing the contribution of the research to the existing body of knowledge.

The purpose of the literature study is to analyse the status quo of knowledge as well as identify gaps in the knowledge of the phenomena, while identifying significant authors, theories, and findings on the subject (Nayak & Singh, 2015:36). It evaluates, describes, summarises and clarifies current research, subsequently ensuring the identification and articulation of connections and relations evident between literature (Nayak & Singh, 2015:49). For the purpose of this study specifically, the literature study aims to identify connections between the fields of economics and Urban Planning, while evaluating the relevance in a South African low-income settlement context. The literature study also aims to identify which variables are considered essential for the data collection of the quantitative phase, justifying the codes and categories that are utilised in the empirical investigation (MacCallum *et al.*, 2019:58). Therefore, the qualitative phase for this specific study comprises the literature study, while the quantitative phase encompasses the empirical investigation.

2.3.1 Qualitative research

Qualitative research promotes and utilises non-numeric data in the form of textual, visual, or aural data (MacCallum *et al.*, 2019:35). Data is collected, analysed and interpreted, mostly using existing research, literature and theories to collect and analyse data, while constructing new concepts in the interpretation phase (Choy, 2014:100). The analysis of data is holistic, with a focus on the quality of the data (MacCallum *et al.*, 2019:35). Qualitative research attempts to understand the reality and the experiences in the real-world through the use of textual data (Nayak & Singh, 2015:142), while numeric data, due to its uninvolved and objective nature, renders it challenging to comprehend “real world” realities (MacCallum, *et al.*, 2019:35). Qualitative data are more open for interpretation, in comparison to quantitative data, with theories and literature increasing in the qualitative field (MacCallum *et al.*, 2019:35).

In the literature study of this research, qualitative data is 1) collected, 2) reduced and 3) analysed through a literature review in the format of a thematic synthesis (Xiao & Watson, 2019:101). Firstly, in the collection phase, different research collection methods were used, as illustrated in Figure 2-1 (c.f. section 2.1). These collection methods entailed, *inter alia*, a database search constituting the review of relevant literature on the specific subject (Farthing, 2016:46), and including an electronic database search. Xiao and Watson (2019:103) as well as Randolph (2009:6) advocate an electronic database search, a typically modern technique in acquiring data, with an increasing number of academic literature available electronically. Sources may also be acquired in a library catalogue, with libraries having ownership of both digital and physical copies of adequate scholarly articles or books (Denny & Tewksbury, 2012:10). In order to acquire a more complete list of literature sources, a backward search was also conducted by identifying sources cited by relevant authors, through using the reference list in articles (Xiao & Watson, 2019:104; Randolph, 2009:7). When databases (electronic and library catalogues) are depleted, it may be useful to consult experts in the field with practical knowledge on the specific subject or phenomenon (Randolph, 2009:7). After collecting the data, the literature was filtered through an assessment of the quality of the literature (Farthing, 2016:65; Xiao & Watson, 2019:105-107). The literature was screened for inclusion and assessed to ensure high-quality research and avoid unreliable conclusions (Thomas & Harden, 2008:4).

Following the data collection phase, the qualitative data were reduced to be suitable for analysis and to develop an argument for the research (Farthing, 2016:149). This ensures a detailed understanding of the data gained in the literature (MacCallum *et al.*, 2019:188). In reducing the literature, a process of coding was employed (Saldaña, 2016), organising segments of text data into smaller units by applying relevant criteria. This entailed examining the text, marking it with codes (labels) describing it, aiming to categorise the data into a manageable number of themes (Cohen *et al.*, 2018:668). Coding is a method employed with the aim to acknowledge and

understand the comprehensiveness and complexity of the collected data (Cohen *et al.*, 2018:669). Codes that describe the data are designated to textual data that are similar in nature. The data is separated into different sections of textual data, facilitating the examination, comparing, conceptualising and categorising of the data (Cohen *et al.*, 2018:668). In order to complete the coding process, a thematic synthesis was employed. During this synthesis, themes are extracted from the literature and synthesised to be analysed in order to answer the research question (Xiao & Watson, 2019:101). This occurs in three stages, namely 1) the coding of text, 2) the development of descriptive themes and 3) the generation of analytical themes. The analytical themes generate new interpretive concepts, explanations or hypotheses (Thomas & Harden, 2008). Key concepts were identified in the study and merged, therefore identifying similar concepts in different sources (Thomas & Harden, 2008:3).

The qualitative data in the literature were then finally analysed through a thematic analysis. A thematic analysis is similar to content analysis, while combining the frequency of categories with the associated context of the codes or categories, encompassing the complexity of the phenomenon (Joffe & Yardley, 2004:57). Themes and patterns are identified and analysed within the data (Vaismoradi *et al.*, 2013:400) with the purpose of understanding the significance of the theme within the data and articulate interpretations (Joffe & Yardley, 2004:57). Finally, the results of the qualitative research in this study, were summarised and represented in a theoretical matrix (Xiao & Watson, 2019:98) used to initiate and inform the empirical investigation of the research, subsequently discussed.

2.4 Empirical investigation

The notion that the quantitative method is informed and initiated by the preceding qualitative method (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2008; Onwuegbuzie *et al.*, 2010), using the textual data collected in the qualitative phase, validates the employment of a sequential exploratory methodology in this research. Therefore, in the empirical investigation the coded data and themes generated through the thematic synthesis, are used to inform the collection of the quantitative data, supporting the findings in the literature study (Byrne & Humble, 2007:3).

2.4.1 Quantitative research

Quantitative research is research conducted through empirical methods and statements, representing the literature with regard to the real-world (Nayak & Singh, 2015:157). Numerical or statistical quantifiable data is collected and analysed, representing observations in numerical format, in order to explain a phenomenon reflected by the particular observations (Nayak & Singh, 2015:157). Literature may be used to develop a hypothesis that may impel the quantitative research (Choy, 2014:99), as reflected in this study. The quantitative data used for this study

comprise mainly a statistical analysis of selected themes (informed by the thematic synthesis generated during the literature study) as applied within purposefully selected urban and rural case studies (MacCallum *et al.*, 2019:49; Yin, 2018:xx-xxi), supported through geo-spatial imagery (MacCallum *et al.*, 2019:67) and mapping analysis (Schiewe, 2015:13) of the spatial location of spaza shops.

Case studies research a phenomenon in a specific setting, informing a more adequate inquiry (MacCallum *et al.*, 2019:49; Yin, 2018:xx-xxi). Case studies attempt to provide a practical perspective of the literature occurring in a real-world setting (MacCallum *et al.*, 2019:49; Yin, 2018:xx-xxi) that may motivate or contradict the findings of the literature. In accumulating quantitative data for the case studies, statistical data were obtained from Quantec Easydata, supplemented by observations, as well as a desk-top study. Complex issues are further explored and understood through a robust and holistic research method, without the usual limitations of a qualitative method (Zainal, 2007:1). Therefore, data may be closely examined within a specific context, i.e., the perspective of the subject being researched (Zainal, 2007:2). Case studies may include geographic areas or individuals as the subject, ensuring the investigation of real-life phenomena through an in-depth contextual analysis (Yin, 1984:23).

For this study, quantitative data were abstracted from various purposefully selected case study areas, including Jan Kempdorp, Ikageng, Kanana, Agisanang, Misgund and Ganyesa. These various case study areas were selected according to the available access to the location of spaza shops, as well as the low-income characteristics of the areas. With some of these case study areas being urban low-income settlements, and others being rural low-income settlements, a comprehensive comparison between urban and rural low-income settlements may be accomplished. Figure 2-3 illustrates the selected case study areas.

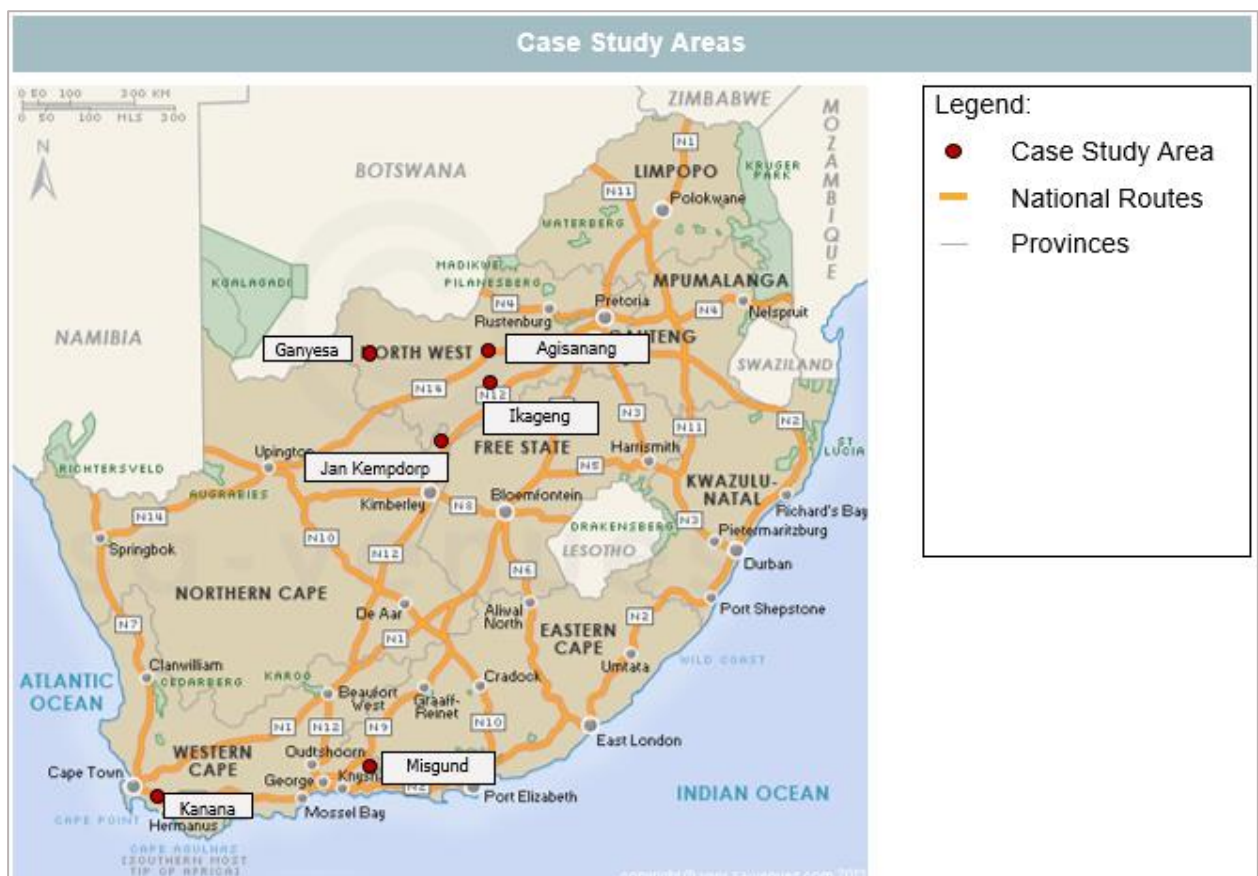


Figure 5-3: Mixed-Method Research Design Options

Source: Own Compilation (2022)

As illustrated in Figure 2-3, various case study areas were utilised. Data were collected through a combination of a desk-top study as well as observations conducted during site-visits. Observations are a logical method of documenting behavioural patterns of events, objects, people, occurrences and physical characteristics of a geographic area in its natural context (Nayak & Singh, 2015:136).

For the quantitative data, geo-spatial imagery was used to collect web-based geo-spatial data in a raw format, allowing an analysis of spatial occurrences and changes (MacCallum *et al.*, 2019:67) in the location of spaza shops. The quantitative data abstracted from these case study areas were subsequently mapped using a Geographic Information System (GIS), ensuring a visual cartographic representation of the phenomena found in the case studies in the form of maps, abstracting the geographical reality in the case studies (Schiewe, 2015:13). A statistical analysis was also conducted, subsequently providing a basis for evaluating the mapped data (Wetcher-Hendricks, 2011:3). The statistical analysis comprised the employment of a logarithmic growth formula to first determine growth rates (of, inter alia, the population). Subsequently growth rate percentages were extrapolated by employing a geometric growth formula in order to obtain more recent statistics on the various case studies.

The statistics of differentiated case study data could then be compared or merged (Wetcher-Hendricks, 2011:21). This motivates the notion of determining whether the data of different case studies are related, offering an indication of any relationship between the data, and the likelihood of a manifestation of any relationship occurring between the data (Cramer, 2003:5).

2.5 Summary

In summary, it is evident that a myriad of different research designs, methodologies and methods exists (c.f. Figure 2-2 section 2.2). In order to ensure the research conducted is reliable and valid, the methodology employed is of utmost importance. Therefore, to ensure the reliability and validity of this study, a mixed-method sequential exploratory design is employed, with the qualitative phase comprising the literature study, and the quantitative phase comprising the empirical investigation. The literature study will therefore influence and inform the data and research conducted in the empirical investigation. Using the combined and integrated qualitative and quantitative data, the research problem may be elucidated, followed by conclusions and recommendations in an attempt to address the research question.

CHAPTER 3: ECONOMIC ACTIVITY IN URBAN AND RURAL LOW-INCOME SETTLEMENTS IN A SOUTH AFRICAN CONTEXT: THE ROLE AND IMPORTANCE OF SPAZA SHOPS

This chapter addresses Objective 1 of this study:

1) Provide an overview of economic activity in urban and rural low-income settlements in South Africa and contextualise the role and importance of spaza shops within these economies.

In elaborating on this objective, this chapter discusses the economic activity in urban and rural low-income settlements in a South African context by firstly classifying low-income settlements in South Africa (section 1). Supplementary to this, the economic characteristics of rural versus urban low-income settlements in South Africa are described (section 2) to enhance the understanding of the economic dynamic of the informal economy, mostly accommodated in low-income settlements. With the main focus of the study on spaza shops, the context of spaza shops in low-income settlements is provided. This entails the role and importance of spaza shops in accordance with the economic activities in low-income settlements (section 3). To ensure proper contextualisation, the economic characteristics and the location of spaza shops are discussed (section 4) to establish the influence the economic characteristics of spaza shops may have on their spatial location.

3.1 A background to the establishment and classification of urban and rural low-income settlements in the South African context

South Africa comprises a diverse range of settlement types, as reflected by Collins *et al.* (2006:6), Atkinson (2014:5) and Mathebula *et al.* (2017:19). These settlements include 1) Metropolitan formal settlements, also including the low-income settlements on the periphery of the metropolitan areas; 2) formal urban settlements, consisting of all non-metropolitan areas, including secondary and tertiary towns; 3) informal urban settlements, comprising low-income settlements often established on the periphery of the urban fringe; 4) former homeland areas, also known as traditional areas, comprising settlements that originated as a result of the alienation of some citizens in the Apartheid Era, currently functioning under the jurisdiction of traditional leaders; and lastly 5) rural settlements, also known as commercial agricultural settlements, consisting of a sparsely populated rural industry settlement type, with the residents primarily dependent on the natural resources, including dispersed villages and small towns.

Several of these types of settlements comprise sizeable low-income areas, displaying both “urban” and “rural” characteristics. Therefore, formal small towns are often classified as either

"urban" or "rural towns" (Atkinson, 2014:5). In some instances, rural settlements (especially in traditional areas) may sometimes be classified as urban due to the high population density and other urban characteristics the settlement display. In other instances, these settlements are classified as rural, due to the lack of an economic centre as well as the rural character of surrounding villages and farms (Atkinson, 2014:5). The prevalence of sizeable low-income settlements in both urban and rural areas in the South African context, complicates the classification of settlement types and is further exacerbated by a dramatically increasing rate of urbanisation (Atkinson, 2014:5).

More than a million citizens are weekly born in or move to cities in the developing world, increasing the need for new and more adequate housing (PADCO, 2006:1). The United Nations for Human Settlements Programme (UN-HABITAT) and Sustainable Urban Development estimates that, worldwide, approximately 3 billion of these residents will require access to housing and basic infrastructure services over the next 25 years (Masilela 2012). In effect, the United Nations (UN) estimates that there will be 3 billion low-income residents in 2050 (Marutlulle, 2017:1). In Africa, and specifically also in South Africa, failure to address housing issues has led to the continued growth of low-income settlements and substandard serviced informal settlements on the urban periphery (Giddings 2007:11; Carrington 2015). Streek (2001) substantiates this, motivating that due to a lack of affordable and accessible housing, residents in the urban periphery occupy any available vacant land to build shacks in areas with no access to water, utilities, or social facilities. Therefore, low-income settlements, primarily established in the urban periphery, are characterised by a lack of: 1) land ownership, 2) secure land tenure, and 3) formal boundaries (Marutlulle, 2017:2). Usually, the only vacant land available for the establishment of these low-income settlements, are unused and unwanted land, mostly due to environmental problems. These problems may include extreme flooding, water shortage, or an inadequate geographic terrain with steep slopes (Carter, 1990:138). Marutlulle (2017:2) identifies low-income settlements as settlements with living conditions where at least one of the basic housing conditions – proper sanitation, sufficient water supply, adequate housing, or adequate living space – is not achieved. Therefore, low-income settlements may generally be defined as self-constructed, high-density (Mathebula *et al.*, 2017:19), usually poor, communities residing illegally on land (SERI, 2018:5), with poor housing, a lack of service delivery, generally low-income levels (Chenwi, 2012:540) and being dependent on natural resources (Mathebula *et al.*, 2017:19). Apart from the current rapid rates of urbanisation, the origin of these low-income settlements may also be attributed to social and economic exclusion and inequality, discrimination (Oppong, 2015:26), marginalisation, and poverty (Chenwi, 2012:546).

South Africa is currently faced with a dramatically changing urban and rural landscape due to increasing rates of urbanisation. The history of spatial inequality and alienation that characterises

South Africa's existing urban and rural landscape, aggravates this and complicates spatial planning. This is the consequence of various contributing historical political, economic, legal, and social factors (Strauss, 2019; Pienaar, 2002:337). Port Elizabeth, that originated as a British colonial port, is one of the most relevant examples in South Africa of spatially divided urban growth due to racial division (Nel, 1991:60-68). As early as 1834, missionaries established a separate residential area near the city centre for indigenous people under their care (Christopher, 1987:197; Baines, 1990:72). Poor labourers, who were not housed by employers, for example, were forced to move to this controlled area (known as the Native Strangers' Location) and build homes (Christopher, 1987:197; Baines, 1990:74-75). The establishment of the Native Strangers' Location is historically significant since it focuses on early colonial approaches to urban administration and spatial control that depended on segregated residential development (Strauss, 2019:138). Authorities later developed new suburban areas outside the city boundaries (Strauss, 2019:139). This decision was essentially made to alleviate overcrowding and inadequate living conditions in the Native Strangers' Location (Kirk, 1991:304-310). In reality, however, it ensured increased dominance over residents of these urban and suburban areas (Strauss, 2019:139). The Port Elizabeth municipality established New Brighton in 1901, the first official urban low-income settlement, by implementing the Native Reserve Locations Act 40 of 1902 (Van Wyk, 2012:48). In practice, spatial planning patterns in these low-income settlements differed significantly from those in the adjacent urban settlements (Strauss, 2019:142). Local planning policies unsuccessfully managed the socio-economic, religious and cultural needs of the residents in these low-income settlements (Hardoy & Satterthwaite, 1989:22-23). Law enforcement was exceedingly deficient, primarily due to general neglect by the government as well as the legal systems being based on Western models (Rakodi, 1986:201). As a result, the residents of these low-income settlements suffered in hazardous and dangerous living environments attributed to, inter alia, a housing scarcity, overcrowding, high crime rates and limited access to economic opportunities (Rakodi, 1986:201). A myriad of similar examples, such as this one in Port Elizabeth, exist in South Africa. The low-income settlements established during the colonisation and subsequent Apartheid eras, are still prevalent today.

In addition to the already established low-income settlements as a result of the heritage of Apartheid, Harrison (1992:14) affirms that low-income settlements frequently develop without official authorisation, having to house an increasing number of the growing urban population due to urbanisation, as alluded to earlier. The residents of these low-income settlements often migrate to larger urban settlements in need of improved livelihoods (Swift and Hamilton, 2001; Ellis & Freeman, 2005), but are forced to reside in the nearby low-income, and in many instances informal, settlements, as a result of the limited availability of employment opportunities in the urban areas. Therefore, poverty is prevalent in low-income settlements (Averbeke, 2007:337). Due to underinvestment in housing and infrastructure in these low-income settlements,

unemployment, vulnerability, substandard service provision and inadequate housing, raise significant concerns (Turok, 2015:12). Living in these inadequate conditions on unauthorised property with poor service delivery exposes the residents of these settlements to poverty, vulnerability, and also physical hazards. (Turok, 2015:11). Klug and Vawda (2009:37) explain that low-income settlements have two focal characteristics. The first characteristic may be the insufficiency of the living and working conditions, and the second is the frequency of informal livelihood strategies among the residents in these settlements (Klug & Vawda, 2009:37). As expressed by the UN, low-income settlements should not necessarily be deemed as inferior additions to cities, considering that most of these low-income settlements are functioning as suburbs or economically viable entities, substantiating their right of existence (Harrison, 1992:14). Consequently, it is of vital importance for the purpose of this study, to provide a brief explanation of the difference between formal and informal economies as well as an overview of the economic characteristics of urban and rural low-income settlements in South Africa.

It is apparent that there is no clearly defined, in-depth or measurable distinction between urban and rural characteristics in general, and even more so between urban and rural low-income settlements in the literature. Therefore, in order to distinguish between the urban and rural low-income settlements, a differentiation in terms of economic characteristics and economic activities is assumed for this study.

This study used a number of commonly accepted assumptions regarding urban and rural low-income settlements as well as the informal and formal economies, to differentiate between the settlements. For the purpose of this study, it is assumed that urban low-income settlements are generally located on the periphery of formally planned middle- to higher-income urban areas and have access to economic centres, while rural low-income settlements do not have access to any formal economic activities, middle to higher-income urban areas or economic centres. It is also assumed that urban low-income settlements partake in both formal and informal economic activities. Residents have access to both formal and informal economic activities/employment and also have access to middle- and higher-income urban areas.

Further to this, another assumption is that rural low-income settlements are remotely located, not situated close to other economic centres and do not have access to urban/formal economic centres. Rural settlements are surrounded mainly by villages and farms, and are primarily economically dependent on agriculture. Rural low-income settlements mostly depend on their own (informal) economy to generate income/economic activities due to not being located near formal/urban economic activities. These settlements are primarily reliant on informal economic activity for income/employment.

3.2 The economies of urban and rural low-income settlements in South Africa

Separate from the familiar formal economy, usually associated with higher-income urban and rural settlements, another, second economy exists. The boundaries between these two economies are vague and difficult to capture, as the second economy, conversely known as the informal economy, persists outside standard legislation but is intimately connected to the formal regulated economy (Neuwirth, 2011:16). This second economy is generally associated with urban and rural low-income settlements and founded upon limited turnover and minor income levels. Nevertheless, somehow, it still generates a considerable amount of money over time (Neuwirth, 2011:16). Numerous employers and employees depend on this second or informal economy, and yet, it is disregarded by most economists, business leaders, and politicians (Ingle, 2013:466). This may be attributed to several reasons, including that the low-income standards of those active in this economy are an immense concern. As a result, the possibility of high-risk investment with low returns, make investment in this informal economy undesirable and is consequently, typically avoided (Gumedze, 2008:50). The informal economy may be identified as the economy of innovation, improvisation and self-reliance, the “homemade” economy (Neuwirth, 2011:17). It is the consequence of knowledge, resilience, self-organisation, and community cohesion, while still adhering to numerous, well-established but unwritten regulations (Neuwirth, 2011:18-19). It is an economy that was established out of desperation; however, it emerged into an economy of aspiration with various opportunities (Ingle, 2013:467).

The economic activities present in the informal economy are mainly individually or family-owned facilities with small-scale production and services, reliant on labour-intensive work with simple or no technology (Todaro & Smith, 2003:326). Atkinson (2012:2-3) identifies that the opportunities in the informal economy may either be classified according to 1) the type of economic activity, or 2) the type of employment. When classified according to the type of economic activity, formal characteristics are usually absent in the economic activities in the informal economy, for instance the ownership of property and the registration of the economic activity (Atkinson, 2012:2-3). When classified according to the type of employment, formal labour regulations (for instance, security and non-wage benefits) are also typically absent (Atkinson, 2012:2-3). Due to this complexity of the informal economy, the simplest definition may be: “the trade of goods and services comprising economic value without formal regulation” (Van Rooyen & Antonites, 2007:335). Similarly, the International Labour Organisation (ILO) (1997) characterises the informal economy by the ease of entry to the markets, the reliance on local resources, family ownership, activities on a small scale, labour intensity and adaptive technology, acquiring skills in the informal sector, as well as unregulated and competitive markets. Van Rooyen and Antonites (2007:334) correspondingly characterise the informal economy as what it is not. This denotes that the informal sector does

not officially form part of the formal economy, it is not regulated by the government, is not legal and not taxable.

With the formal economy unable to cope with the rapid economic growth in cities due to urbanisation, the informal economy tends to grow rapidly (Chenwi, 2012:546), congruent with the precipitous expansion of both urban and rural low-income settlements. Therefore, the informal economy serves as an alternative economic outlet for employment shortages in the formal economy (Blaauw, 2017:340), also in South Africa. By the third quarter of 2019, 29.1% of the South African population was unemployed and living below the poverty line (StatsSA, 2019). Therefore, urban and rural low-income settlements tend to have a more substandard poverty profile than higher-income urban areas (Marais *et al.*, 2014:39). As a response to prevailing poverty associated with the “substandard” nature of the informal economy, some residents of urban and rural low-income settlements rely on informal trading (Steyn, 2008:160) or social grants as the main source of income (Ojo-Aromokudu & Loggia, 2017:1961) for economic survival (Drivdal & Lawhon, 2014:109). This is in accordance with the reasoning that the increasing growth of low-income settlements may be attributed to the migration of the poor into the urban areas, in hope of improving their employment opportunities, living standards, access to services as well as education (Thoka & Geyer, 2019:311). Most migrants tend to migrate from rural and agricultural settlements to nearby rural towns, urban settlements or metropolitan areas (Geyer, 1994).

With the reality of an inadequate number of employment opportunities in the formal economy to employ the entire economically active population, the informal economy tends to increase rapidly (Biermann, 2006:33). Turok (2015:13) argues that urban low-income settlements provide an affordable economic environment with a substantial number of opportunities to generate income and access the urban labour market force. However, these employment opportunities are usually of poor quality and only a few of those in the labour force progress into higher quality jobs over time (Turok, 2015:13). Therefore, the South African informal economy, thriving in both urban and rural low-income settlements, is still regarded as inferior compared to the formal economy due to underdevelopment of entrepreneurial skills, substandard access to credit, as well as a lack of social networks and infrastructure (Steyn, 2008:164), associated with low-income settlements. This is due to those working in the informal economy being self-employed, with inadequate education and skills, and no access to financial capital (Todaro & Smith, 2003:326). With lower education levels, the transition from the informal economy to the formal economy is impeded due to the inability of entrepreneurs to do so (Blaauw, 2017:348). Marais *et al.*, (2014) also identify the informal economy as more vulnerable to economic shifts, primarily due to a higher dependency on one main sector. As a result, the productivity and income levels of the informal economy also tend to be lower than the formal economy (Todaro & Smith, 2003:326; Blaauw, 2017:350).

The informal economy is expected to sustain urban entrepreneurs by providing low-cost goods and services in urban low-income settlements (Todaro & Smith, 2003:326). It decreases the average living costs, limits salary demands and encourages the formal sector to generate more income. This economy mainly operates as a monopolistic competitive market, with competition driving profits, providing ease of entry and excess capacity due to an average supply price of entry (Todaro & Smith, 2003:326). It generates inexpensive, partially competitive products for local markets, forcing the formal economy to generate more profitable goods for local markets and exports (May and Stavrou, 1990:47). In contradiction to this, however, some of the informal economic activities in both urban and rural low-income settlements (with urban low-income settlements having access to both formal and informal economic activities, while rural low-income settlements only have access to informal economic activities) may be a result of the rational behaviour of entrepreneurs that wish to avoid the regulations of the formal economy (Van Rooyen & Antonites, 2007:333). Therefore, the informal economy may not merely be considered as an alternative for migrants that are unable to acquire employment in the formal economy. This suggests that not everyone active in the informal economy is pushed into this economy, but rather identify that some are pulled by choice into new opportunities in the informal economy (May & Stavrou, 1990:46). Biermann (2006:32) resonates with this, suggesting that those residing in low-income settlements may prefer either 1) access to informal economic opportunities, mainly located in or near urban and rural low-income settlements, or 2) locating in urban low-income settlements with access to the middle to high-income residential areas. These residential areas in South Africa are usually associated with a high demand for unskilled, semi-skilled and domestic opportunities, rather than formal economic opportunities (Biermann, 2006:32).

In contrast to the potential benefits and opportunities listed above, the Marxist school of thought regards the informal economy as harmful to the formal economy (Wellings & Sutcliffe, 1984). The readily available low-cost options from the informal economy limit the bargaining power of workers in the formal economy, with the effect that salary demands are limited, and workers are more easily exploited. The dynamic of the informal economy may also be regarded in terms of three other economic approaches, namely: 1) the dualistic approach, 2) the structuralist approach (also known as the neo-Marxist approach) and, 3) the legalist approach (also known as the neoliberal approach) (Blaauw, 2017:343). In accordance with the dualist approach, the informal economy is regarded as self-governing and independent from the formal capitalist sector, offering opportunities for low-skilled migrants from rural settlements in search of employment (Wilson, 2011). Therefore, the informal economy is perceived as a passive homogeneous entity, disregarding the individual (Blaauw, 2017:343). In contrast to this, the structuralist (neo-Marxist) approach acknowledges linkages between the formal and informal economy, presuming that the informal economy is incorporated and exploited by the formal economy (Guha-Khasnabis & Kanbur, 2006:1). This includes informal contract workers often subcontracted

or informally hired by formal enterprises, choosing to avoid legislative processes. Lastly, the legalist (neoliberal) approach perceives the informal economy as a response to the formal economy being over-regulated (Blaauw, 2017:344). Therefore, this provides opportunities for entrepreneurs in the informal economy to prosper without being constrained by unnecessary legislation (Wilson, 2011:206).

Those active in the informal economy frequently diversify their income (Loison, 2015:1125). Livelihood diversification entails the diversification of a variety of economic activities to diversify income over time to ensure economic sustainability, and ultimately, to enhance living conditions (Loison, 2015:1125). Rural households, mainly residing in rural low-income settlements, initially engaged in livelihood diversification as an approach to mitigate risks and avoid economic instability while still generating resources or assets (Hilson, 2016:548). Push- or pull factors may be used to justify livelihood diversification (Mathebula *et al.*, 2017:17). Survival-led diversification is typically motivated by push factors and arises once poorer rural households participate in low-return activities in order to ensure survival, alleviate vulnerability, or escape poverty (Loison, 2015:1131). Opportunity-led diversification is typically motivated by pull factors and occurs when more wealthy rural households participate in the development of high-return non-farming activities in order to enhance household income by increasing returns on assets (Loison, 2015:1131). In order to diversify economic activities and ultimately increase income levels, individuals and households residing in urban and rural low-income settlements occasionally participate in both informal as well as formal economic activities (May & Stavrou, 1990:44).

May and Stavrou (1990:44-45) categorised this combination of formal and informal economic activities in low-income settlements, into eight different sectors. The identified categories include: 1) producers (self-employed craftsmen, building contractors and small-scale agriculture) and 2) distributors (spaza owners, hawkers and market operators). The next category is 3) transporters (truckers and taxi drivers), followed by 4) legal services (sangomas, carwashes, shebeen owners and child caretakers). 5) Illegal services are another category (pimps and prostitutes), as well as 6) financiers (loansharks and pawnbrokers), 7) 'dream merchants' (dealers, suppliers and growers of drugs) and 8) criminals (pickpockets and burglars). New and alternative economic activities in the informal economy are also rapidly increasing, including tourism, lifestyle activities, arts, crafts, boutique towns, nature conservation, organic farming, as well as game farming, generating more opportunities, especially for those in rural low-income settlements (Atkinson, 2014:26). Blaauw (2017:343) also provides additional informal economic activity categories, including informal self-employed, without any employees, operating completely informally, including street traders. Another category provided by Blaauw (2017:343) involves informal production forms, comprising formal or informal economic activities aiming to avoid taxes, subsequently conducting business illegally.

In some instances, informal economic activities do not operate separately from formal economic activities, with mutual trading occurring between formal and informal economic activities (Skinner & Hayson, 2016:6). May and Stavrou (1990:45) identify linkages between the formal and informal economy in four different types of economic activities. Firstly, the informal street traders may be integrated into the marketing networks of the formal economy due to dependency on the formal economy, or due to commission sellers of a wide range of commodities for the formal economy. Secondly, casual work seekers are employed as sub-contractors in the construction sector of the formal economy. Thirdly, marginal workers scavenging for recyclable paper, glass or plastic, sell this to the recycling industry in the formal economy. Lastly, informal backyard manufacturers are also sub-contracted into the formal economy in order to deliver labour-intensive products (May & Stavrou, 1990:45).

Steyn (2008:164) further classified economic activities in the informal economy of urban and rural low-income settlements in terms of the economic processes involved. The first classification includes an internal or local economy, mainly serving the community, similar to a crèche or shebeen (Steyn, 2008:164). Secondly, an external economy is identified, consisting of residents working or selling elsewhere, similar to domestic workers, gardeners or craftsmen (Steyn, 2008:164). The third classification is an in-between economy, for example, street markets, that serve the community, nearby neighbourhoods and passing members (Steyn, 2008:164). These street markets generate income for the residents, through a wide variety of activities, for instance, spaza shops, mobile phone kiosks, barbers, or car washes (Steyn, 2008:162). Mining is another economic activity that generates income in both urban and rural low-income settlements. Mine workers that migrate to these settlements are able to send remittances back to their families (Britz, 2010:64). Remittances in this form, usually entail the migration of one household member to an urban low-income settlement, residing in low-cost housing, and sending remittances back home (generally “home” would be located in a rural low-income settlement) in order to support the poor family members that are unable to work (Moses & Yu, 2009:30; Kok *et al.*, 2006:31). Typically, these migrants tend to be men, while the women are often expected to remain at home and care for the family, suggesting that men are economically dominant in low-income settlements (Thoka & Geyer, 2019:311).

Enterprise types in urban and rural low-income settlements, may be categorised according to six categories including: 1) survivalist enterprises, 2) micro-enterprises, 3) very small enterprises, 4) small enterprises, 5) medium enterprises and 6) large enterprises (Atkinson, 2014:11). Survivalist enterprises may be classified as pre-entrepreneurial, unregistered and non-tax paying low-income enterprises, with little to no paid employees, and are mostly informal. Micro-enterprises usually operate below the value-added tax (VAT) registration limit, and are also often unregistered, with fewer than five employees. 3) Very small enterprises are mostly

registered for tax, usually have fewer than ten paid employees and are therefore classified as a formal economic activity. 4) Small enterprises are also formally registered, with fewer than 50 employees. 5) Medium enterprises usually have up to 100 employees, or in the mining, manufacturing and construction industry may have 200 employees; while 6) large enterprises have more than 100 employees, or more than 200 in the mining, manufacturing and construction industry (Atkinson, 2014:11).

It is evident from the preceding discussion that the economies of urban and rural low-income settlements in South Africa are incredibly diverse and that these economies contain a dispersion of different types of formal and informal economic activities. It is, consequently, beyond the scope of this study to examine all the various economic activities in detail; therefore, this study focuses specifically on the role and importance of spaza shops in urban and rural low-income settlements.

3.3 Role and importance of spaza shops in low-income settlements

Spaza shops originated due to a lack of income (Perks, 2010:459), unemployment and the need for survival during the Apartheid Era (Chipunza & Phalatsi, 2019:2). During the 19th and 20th centuries in the former Ciskei homeland, a growing agricultural sector contributed to increased market demand. This was supported by supplying goods in shops in the trading stations, with shop owners taking on the role of intermediaries between farmers and consumers (Coka et al., 2020:18). The shop owners received products from the farmers and sold them on behalf of the farmer, receiving a certain percentage of the profit. Between 1983 and 1990, the South African government relocated white farmers to white-only areas, and the black shop owners bought the trading stations, transforming the shops into spaza shops. These shop owners were no longer the intermediary between consumers and farmers, and rather sold everyday household goods (Coka et al., 2020:18). During the Apartheid Era, spaza shops were covertly established in the homes of the owners to avoid the authorities and to repulse against white-owned retail facilities (Chipunza & Phalatsi, 2019:2). This explains the use of the term 'spaza', meaning 'camouflage' or 'concealed' (van Zuydam Reynolds, 1990:64). Restrictions against spaza shops were lifted after 1994.

Presently, spaza shops are mostly accommodated in a residential single-room home or a shack (Charman, 2017:8), or any structure in a low-income settlement used for residential purposes (Roos *et al.*, 2013:195). Primarily found in urban and rural low-income settlements, spaza shops form part of the informal economy and are defined as owner-managed, very small enterprises, usually consisting of between five and 20 employees (Chipunza & Phalatsi, 2019:2) with the entire family usually involved in the business (Perks, 2010:448). These retail facilities have predominately male owners (Charman, 2017:8) with local or foreign owners of different ages, work experience and education levels, meeting the needs of the community (Chipunza & Phalatsi,

2019:2). The Sustainable Livelihood Foundation discovered that an estimated 50% of spaza shops are owned by foreign nationals (Phalatsi, 2016:98), elucidating the fierce competition between foreign and South African spaza shop owners (Chipunza & Palatsi, 2019:3). It was only after 1994 that foreign nationals entered the spaza shop industry in South Africa as a means of survival, which inadvertently impacted the survival of South African spaza shop owners (Malgas & Zondi, 2020:2).

This resulted in South African spaza shop owners diversifying to alternative economic activities, for instance, shebeens, allowing foreign owners to dominate the market (Liedeman *et al.*, 2013:2). Consequently, foreign-owned spaza shops were able to be more competitive in the market than locally owned retail facilities, while also being able to sell products for less (Makhitha, 2017:419). In maintaining low prices on products, the market entry barriers persist in being low, and more opportunities are available in the market, increasing competition in the market (Charman *et al.*, 2017:51). Resultantly, due to a decrease in competition from South African-owned spaza shops, a surge in extensive failure rates in spaza shops emerged (Hare & Walwyn, 2019:1). In 2011, the University of the Western Cape, as well as Old Mutual, reported that only 37% of small and medium economic activities (including spaza shops) survive for five years (Eicker & Cilliers, 2019:5). Ledingoane and Viljoen (2020:2) also articulated that in 2018, more than 40% of informal economic activities did not survive longer than six months, illustrating the exceedingly competitive spaza shop market.

Nonetheless, the contribution of spaza shops to the national economy is significant. In 2016 an estimated 2.2 million small-, micro- and medium enterprises contributed to the South African economy, with 1.6 million of these economic activities being from the informal economy, located in low-income settlements (Mathu, 2019:3). In 2017, the Rand Merchant Bank (RMB) Morgan Stanley report identified that informal food markets, including spaza shops, contribute up to 35% of the South African food retail market (Tshandu, 2017). Over 140 000 of these food retail markets are traditional trade outlets contributing an estimated R316.5 billion to the South African economy (Mathu, 2019:3). These traditional trade outlets include spaza shops and are primarily situated in urban and rural low-income or informal settlements (Roos *et al.*, 2013:195). According to a research study led by the Bureau of Market Research (BMR) from Unisa, spaza shops contribute a yearly estimate of R9 billion to the South African economy (Steenkamp, 2019; Jeeva, 2017). A significant part of this economic contribution is income generation and employment opportunities generated by spaza shops (Perks, 2010:447), thereby reducing unemployment in South Africa (Perks, 2010:461; Hare & Walwyn, 2019:1). Additional to providing employment opportunities, spaza shops also offer credit to consumers, in so doing granting financial support to the community, while improving the economic activity of low-income settlements (Hare & Walwyn, 2019:1). The above-mentioned study led by the BMR from Unisa also estimated that

approximately 300 000 employment opportunities were generated by spaza shops in 2017 (Steenkamp, 2019; & Jeeva, 2017).

Contemplating spaza shops in urban versus rural low-income settlements, the National Agricultural Market Council (NAMC) reported higher prices in rural areas than in urban areas, due to 1) higher transportation costs, 2) little to no volume discount in rural retail facilities, 3) products that expire, break, spoil or get stolen, and 4) rural retail facilities being more labour intensive in terms of transportation and loading of items (Ramabulana, 2011:106). Spaza shops are identified as the primary food distribution outlets in urban and rural low-income settlements, remaining one of the most important sources of food for the poor (Roos *et al.*, 2013:195). With limited stock in these spaza shops, a small variety of goods is available, for instance, cigarettes, liquor, health and beauty products, confectionery items, toiletries, and most basic food and household goods (van Zuydam-Reynolds, 1990:64). It is, therefore, more accessible for residents of urban and rural low-income settlements to purchase food and goods from spaza shops, without having to travel long distances to city centres (Mlambo & Ndebele, 2020:33). Spaza shop owners are entrepreneurs, providing employment opportunities critical for economic development (Basardien *et al.*, 2018:38), as well as socio-economic development, especially in low-income settlements (Hare & Walwyn, 2019:1). Entrepreneurial and innovative activities are likewise promoted by spaza shops, generating labour and employment opportunities (Phalatsi, 2016:97). Linkages between formal retail markets and spaza shops are also evident, with formal retail markets providing goods for spaza shops (Skinner & Haysom, 2016:6).

Strydom (2014:129) highlights that residents with a Living Standard Measure (LSM) level of four to seven primarily support spaza shops, due to a lack of transport to city centres. LSM is a tool used in South Africa to categorise the population into ten living standard and disposable income (LSM) levels, with level ten being the population level with the highest living standard and income, and level one being the lowest standard of living with no measurable wealth (Ntloedibe & Ngqinani, 2020). The LSM levels are measured through indicators including the degree of urbanisation, access to basic services, as well as ownership of assets, major appliances, and cars (Ntloedibe & Ngqinani, 2020). Therefore, with populations groups of level four to seven supporting spaza shops, it is evident that spaza shops play an essential role in the grocery retail sector, especially for communities residing in low-income settlements, in need of small quantities of products (Competition Commission South Africa, 2019:7). Consumers, therefore, rather use spaza shops in low-income settlements for day-to-day groceries, with less expensive and smaller quantity products, as well as shorter travelling distances, while using formal retail markets (in higher-income urban areas) for bulk products (Peyton *et al.*, 2015:50). Consequently, spaza shops capitalise on the limitations of formal markets by supplying for the needs of the poor

(Peyton *et al.*, 2015:50), contributing towards the economic and social changes in consumers over the past decade (Phalatsi, 2016:97).

Considering the classification and categories as outlined in the preceding section 3.2, it is evident that spaza shops in low-income settlements may be classified as a survivalist or very small enterprise (Atkinson, 2014:11). Spaza shops may also be categorised as a distributive economic activity (May & Stavrou, 1990:44-45), generating income in an in-between economy on street markets, serving the community, the surrounding neighbourhood or people passing by (Steyn, 2008:164). In some low-income settlements, spaza shops are owned mainly by immigrants or local citizens who do not formally register the spaza shops, as the citizens are also active in the agricultural sector, the legal or illegal trade of alcohol, or in the transport (taxi) sector (Atkinson, 2014:36). While most spaza shops are not registered as formal economic activities, some owners do attempt to operate within the law and endeavour to register the spaza shop. However, because tax consultants, lawyers and banks are usually not situated within low-income settlements, owners of spaza shops usually do not have access to these services and are, therefore, unable to register the spaza shop (Atkinson, 2014:36). Evidently, the failure to register spaza shops complicates data gathering and limits the availability of information on spaza shops. This complicates the analysis of the economic contribution and spatial impact of spaza shops, but these aspects are still of critical importance to facilitate an understanding of the role and importance of spaza shops in urban and rural low-income settlements in South Africa.

3.4 The economics of the spatial location of spaza shops

Economists usually analyse and explore the choices individuals make when resources are restricted, as well as the geographical decisions that economic activities and enterprises make in order to maximise profit. This enables economists to identify inefficiencies in location and explore more effective locations to maximise profit (O'Sullivan, 2009:1). A high population density surrounding different economic activities may, for instance, ensure more economic feasibility when the economic activities are concentrated in a fairly small area (O'Sullivan, 2009:2). This is specifically significant for low-income settlements, in terms of the location of economic activities active in the informal economy. An agglomeration and concentration of various economic activities may also reduce transportation costs of the consumer, subsequently attracting more consumers and increasing job opportunities, while also being able to reduce the prices of products, in turn again attracting more consumers (Todaro & Smith, 2003:323). The concentration of economic activities may therefore promote a circle of causation for the consumers and economic activities.

Dewar and Watson (2000:89) identified three factors influencing the location of economic activities, namely 1) the location of public transport nodes, for instance, taxi ranks, 2) the location

of transport routes and 3) the distribution and density of the residents. More factors influence the location of economic activities, however, for the purpose of this study, only three is mentioned. This explains the location of economic activities near consumers, enabling consumers to walk to the economic activities (Eicker & Cilliers, 2019:3). Therefore, economic activities tend to cluster together in high pedestrian density areas, mostly being residential areas, with the majority of residential properties converted into an economic activity (Charman, 2017:7), as in the case of spaza shops. Charman (2017:7) also identified that retail facilities associated with a location in a residential home, typically serve the population residing in a radius of between 50m-100m. Therefore, it is evident that the economic viability and spatial distribution of spaza shops in low-income residential areas, may be explained due to a higher population density resulting in more concentrated consumers, ensuring a clustering of spaza shops (Skinner & Haysom, 2016:6).

Deliberating the phenomenon of spaza shops clustering together in a residential area, Todaro and Smith (2003:317) motivate the economic feasibility of this, by articulating that these retail facilities may lead to agglomeration economies due to spillovers of knowledge, ensuring competitive advantages. Market competition also has a spatial dimension, with the profit of each retail facility (in this case spaza shops) being influenced by the location of the other (O'Sullivan, 2009:11). Therefore, the spatial competition of the market is identified as monopolistic competition, comprising marginally differentiated products in one area with unrestricted entry, enabling consumers to easily switch from one spaza shop to another (O'Sullivan, 2009:11). One market, therefore, has a local monopoly over the surrounding area. This is due to consumers and employees (or those in search of a job) being dependent on transportation costs and may prefer being located near the retail facility (Todaro & Smith, 2003:316-317). With an increased number of economic activities clustering together, competition for labour, labour costs and wages also increase (O'Sullivan, 2009:48). Figure 3-1 elucidates the effects that a cluster of economic activities may have on one another.

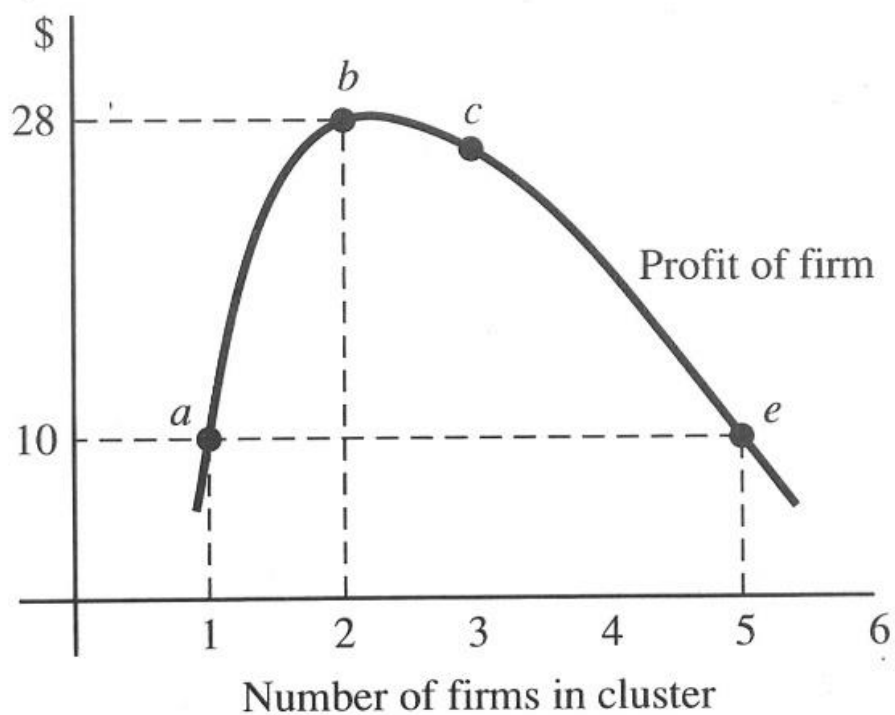
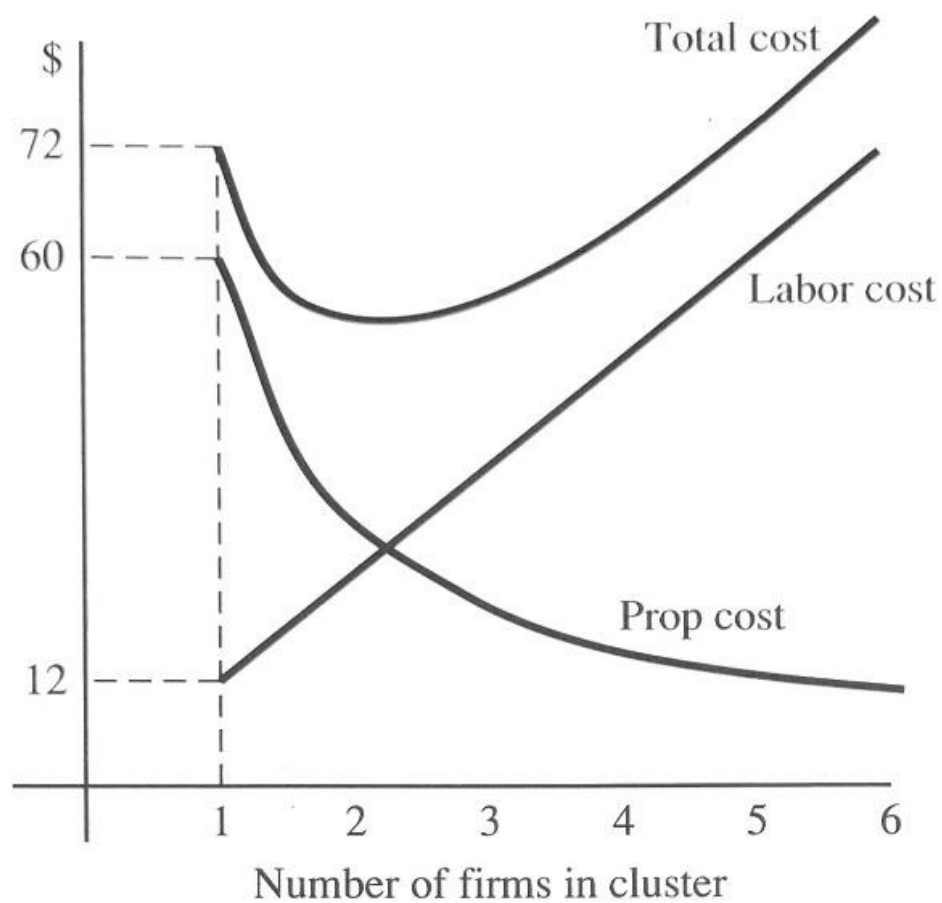


Figure 3-4: Self-reinforcing effects and clustering

Source: O'Sullivan, 2009:49

In the first graph in of Figure 3-1, it is evident that the supply costs for economic activities (indicated by “Prop cost”) decrease as the number of economic activities increases, due to a reduced price for the supplies, with more facilities buying from one supplier. It is also indicated that wages and labour costs increase as the number of economic activities increases, due to increased competition. The total cost is equal to the sum of the supply and labour costs. When, for instance, only two facilities are available in the area, the savings in the supply costs dominate the increased labour costs, and the total cost curve slopes downwards. When labour costs begin to dominate supply costs, the total cost curve tends to slope upwards. The second graph depicts the profit of individual economic activities in a cluster. As the number of economic activities in one area increases, the profit of each individual increases. However, it starts to decrease as more economic activities are established. This is reflected in the U-shaped slope of the total costs (O’Sullivan, 2009:48).

Reflecting on the economic competition between spaza shops, it is essential to note that other retail facilities are also present in these low-income settlements. Peyton *et al.* (2015:48) suggest that there is little to no competition between spaza shops and supermarkets, with spaza shop owners occasionally supporting supermarkets. This is due to supermarkets supplying goods for spaza shops and the limitations in product diversity in spaza shops. In contrast, Ledingoane and Viljoen (2020:12) advocate that supermarkets and shopping malls influence the profit of spaza shops, with consumers rather shopping at supermarkets and shopping malls, due to fewer limitations in the availability and diversity of products. Therefore, it is important for Planners and policymakers responsible for the zoning of land use, social and economic investment and infrastructure development, to acknowledge and take cognisance of the localities of spaza shops when developing supermarkets and shopping malls in low-income settlements (Charman *et al.*, 2017:51).

3.5 Summary

The history and origin of urban and rural low-income settlements in the South African context are unique and fundamentally impact the functioning of the embedded formal and informal economies in these settlements. Due to this rich history, the dynamic of these low-income settlements and the associated informal economy differs significantly from the formal economy, predominantly associated with middle to higher-income settlements. However, with the informal economy’s noteworthy contribution to the national economy, it is vital to understand this dynamic in order to improve spatial planning and economic decision-making, without detrimentally impacting the informal economy. This chapter provided insight into the economic activities in urban and rural low-income settlements in South Africa while contextualising the role and importance of spaza shops in these settlements and economies. In the following Chapter, the role and importance of economics in Planning is analysed in-depth in order to provide an enhanced understanding of the

informal economy and the influence thereof on the spatial distribution of spaza shops in these low-income settlements.

CHAPTER 4: THE ROLE AND IMPORTANCE OF ECONOMICS IN PLANNING

This chapter aims to address Objective 2 of the study:

2) To provide a theoretical context to the role and importance of economics in Planning

In attaining this objective, this chapter provides a comprehensive overview of the theoretical context of the role and importance of economics in Planning. This is achieved by first providing a theoretical background to economics in Planning (section 4.1). Supplementary to this, different economic theories are elaborated on in order to motivate the use of economics in Planning. The first economic theory discussed is Institutional Economics (section 4.2), articulating the work of Elinor Ostrom. Next, the focus is placed on New Economic Geography (section 4.3), analysing the impact of geography and location on the economy and vice versa. Lastly, the Central Place Theory developed by August Lösch and Walter Christaller (section 4.4) is discussed, focusing on the range of goods and services (section 4.4.1), the sphere of influence (section 4.4.2) and the threshold population (section 4.4.3). This may well substantiate the use of economics in Planning and support the development and sustainability of spaza shops in urban and rural low-income settlements.

4.1 Theoretical background to economics in Planning

Economic Planning is defined as the search for rationally coordinated policy system measures capable of enabling and increasing economic development and growth (Todaro & Smith, 2003:89). With economics exploring the distribution of rare resources used for competitive markets, it is evident that the purpose of economics and Planning are related (Lichfield, 1968:9). Urban settlements are planned to provide cost advantages for consumers as well as producers, known as agglomeration economies, causing forward and backward linkages (Todaro & Smith, 2003:316-317). For example, with high transportation costs, consumers may benefit from markets located nearby, generating forward linkages, while related industries located in the same city may attract more job opportunities, causing backward linkages (Todaro & Smith, 2003:317). With Planning being considered a multi-disciplinary, multi-professional profession, these linkages may be limitless (Samson, 1986:6). This is due to Planners requiring visualisation of the influence an urban proposal may have on the local economy, while quantifying the economic benefits thereof (Samson, 1986:10).

Since 1920, the alterations in the spatial distribution of the residents in a city or a megalopolis were the result of freedom of access achieved through economic and spatial discoveries in urban

settlements (Harvey & Clark, 1965:1). After World War 2, new towns arose in response to economic challenges and housing shortages, but only in the late 1960's structural spatial plans started to correspond with social, economic and environmental objectives (Gallent & Robinson, 2012:53). This was due to rapid population growth increasing the demand for urban development, compelling a more adequate forecasting of the long-term influence of development (Farthing, 2004:66). In South Africa, population growth and urbanisation initiated a backlog in housing, causing high levels of unemployment and poverty, associated with a continuous decline in economic growth (Levin, 1993:232). Therefore, throughout history, Planning was essential in providing solutions for individual economies, with the physical layout of the town directly impacting on the economy (Samson, 1986:6). It is argued that Planners should, therefore, not only focus on physical planning, but also the economic development of the city, promoting employment opportunities and generating income for residents (Levin, 1993:232), thereby improving the local economy as well as living conditions for residents.

Urban settlements are open economies, as expressed by Goldstein and Moses (1973:471), economically competing with other urban and rural settlements, with growth in one settlement or sector influencing the economic decline in another. Some settlements may achieve more economic success than other areas due to comparative advantages (Goldstein & Moses, 1973:471). In this regard, Edwards (2007:1) differentiates between regional economics and urban economics. Regional economics identifies the different types of economic activities thriving in some settlements, while simultaneously being the reason why other economic activities do not thrive in the same settlement (Edwards, 2007:1). Therefore, regional economics focuses on the analysis of location and migration patterns in urban settlements, leading to regional growth. On the other hand, Edwards (2007:1) defines urban economics as the relationship between different sectors in one urban settlement, impacting on the land use patterns in the settlement itself.

To analyse these patterns and characteristics of the urban structure, various mathematical calculations, programmes and theories are used (Mills & MacKinnon, 1973:594). These include theories developed by economists, as well as other related theories in the field of Urban Planning. In terms of the economic theories, the work of Elinor Ostrom in Institutional Economics may be particularly relevant in understanding community management, institutional engagements and social norms (Frischmann, 2013:5-6). Another economic theory of importance is the New Economic Geography, particularly the work of Venables and Krugman, analysing how the economy, including transportation costs, supply and demand, and return levels of economic activities, influence and shape the location of the economic activities (Pflüger, 2004:565). The New Economic Geography is an integrated approach to urban economics, emphasising the significance of clustering forces in promoting a spatially unequal distribution of economic activities

and income (Venables, 2016). Regarding Urban Planning theories, one particular theory, the Central Place Theory developed by Walter Christaller and August Lösch, is one of the best-known and most broadly studied models when considering urban structure, spatial patterns and economics in Planning. This theory considers, inter alia, retail location and distribution as well as market area patterns (South & Boots, 1999:157).

4.2 Institutional Economics

Institutions are the principles that humans have established to structure political, social and economic interactions, comprising both formal rules, including property rights and legislation, and informal restrictions, including traditions, codes of conduct and sanctions (North, 1991:97). This is in accordance with the classification of low-income settlements in a South African context (c.f. section 3.1), suggesting that the norms, rules and values that were introduced in the past affected the development and spatial distribution of settlements in South Africa. The history of spatial inequality and alienation that characterises South Africa's existing urban areas is the consequence of a variety of political, economic, legal, and social factors (Strauss, 2019; Pienaar, 2002:337). The development of inclusive institutions decreased with the increase of diseases, (for instance, malaria in South Africa), and therefore these colonies rather focused on the removal of enslaved people and resources, explaining the subsequent nonconformity of the South African economy to non-colonised countries (Hodgson, 2018:49-50).

In terms of Institutional Economics, the concept of institutions refers to the principles that humans adhere to when engaging in a range of recurring and structured situations at various levels of analysis (Ostrom, 2008:24). These institutions may be formal or informal, where formal institutions comprise contracts, legal regulations, and organisational statuses, while being complemented and supported by informal institutions, being more evolving, dynamic, and natural in character (Khalil, 1994:255). However, Guha-Khasnobis *et al.* (2005:13) suggest that all institutions may be formal, considering that every institution is recognised and predictable, while some are just not governmental in structure. Institutional Economics view institutions in informal settlements as providers of both capital and labour. These informal institutions are characterised by predominantly perfect or near-perfect competition, while being unorganised with no legal restrictions on employment or attainment of non-labour efforts (Guha-Khasnobis *et al.*, 2005:5).

Institutional economists view the economy as a system of producing, distributing and consuming goods in a socio-economic setting, therefore viewing the economy as part of social institutions (Neale, 1994:402). Institutions may therefore be perceived as the behavioural patterns followed by people in a society (Neale, 1994:402), forming social rules structuring the social interactions in the society (Hodgson, 2001:294). This ensures the empowerment of individuals in enabling them to solve problems and aspire to innovation by understanding the behaviour of others

(Dimmelmeier & Heussner, 2018). It corresponds with Behavioural Economics, focusing on human behaviour through the perspective of the social preferences, norms and heuristics constructing the human behaviour in society (Kersting & Obst, 2016). Human behaviour is therefore rooted in bounded rationality (Kersting & Obst, 2016). The theory of Institutional Economics in low-income settlements may also be linked to Cooperative Economics. This refers specifically to the self-governing institutions of a unified society in pursuit of meeting the economic, social and cultural needs of the community (Cato, 2018:107). These institutions are governed by the community members rather than investors, shareholders and the government (municipality) (Cato, 2018:108).

One of the leading theorists in Institutional Economics is Elinor Ostrom. Spithoven (2019:441) explains that this theory, as theorised by Elinor Ostrom, is characterised by five main ideas, namely: 1) the behaviour of institutions is constraining and enabling, with the role of shaping beliefs, values and preferences; 2) the integration of social psychology allowing institutions to influence these beliefs, values and preferences while rejecting utility maximisation; 3) critically and empirically investigating social phenomena; 4) including a critical examination of the functioning of prevalent institutions; and 5) conforming humanistic and pragmatic social values to institutions. In accordance with the first idea, with an increased demand for public services and institutions, it is vital to understand the basic patterns of behaviour of various governmental institutions responsible for providing public goods and services (Toonen & Schacter, 2010:196). In relation to the third idea, individuals residing in poor low-income settlements commonly interact with one another in either self-organised groups or markets (Guha-Khasnobis *et al.*, 2005:11).

A familiar concept in the work of Elinor Ostrom is common-pool resources and the organisation and maintenance thereof (Hodgson, 2013:381). Common-pool resources generally include publicly available and shared community resources (Frischmann, 2013:2), including common or shared land, public goods, public parks, forests, and fisheries (Hodgson, 2013:381). Mostly in developing countries, effective rules for the management and maintenance of common-pool resources are established by the community (Hodgson, 2013:381). Common-pool resources are, therefore, especially relevant in studying the spatial distribution of spaza shops in urban and rural low-income settlements, as this phenomenon depicts the social and cultural behaviour of communities in low-income settlements in South Africa. However, these resources tend to deplete with use, enabling increased competition between suppliers (Hodgson, 2013:381). With a tendency of these common-pool resources to depreciate due to no restrictions on the usage thereof, a “tragedy of the commons” emerges when, for instance, the resource is over-used by a community (Hardin, 1968).

According to Frischmann (2013:4), it is commonly believed that government control of institutions or the privatisation of property-enabled markets may avoid the “tragedy of the commons”.

Ostrom (2007) opposes this, explaining that the cooperation between community members, community management, social standards, as well as supplementary institutional measures are adequate in avoiding government intervention and regulations, as well as avoiding market regulations, while still being theoretically feasible (Frischmann, 2013:6). Through empirical studies, Ostrom demonstrated the effectiveness of self-organised community governance of common-pool resources, with communities avoiding the “tragedy of the commons” without government or market intervention (Madison, Frischmann and Strandburg, 2010:676). This self-organised community solution does not always succeed or fail; however, it is proven to be possible, and Ostrom, consequently, encourages a more nuanced approach rather than a regulatory one (Frischmann, 2013:6).

Therefore, Ostrom introduced “non-governmental institutions” as an additional concept to public services, with self-regulatory social institutions and no government- or market interventions, but rather public intervention (Toonen & Schacter, 2010:195). Ostrom recognised that neither state nor market interventions are long-term solutions for the management and maintenance of common-pool resources and that the successful management of these resources includes a mixture of government and public institutions, contradicting the conventional approach (Hodgson, 2013:282). Acknowledging the sustainability of common-pool resources with public intervention, Frischmann (2013:6) argues that informal institutions are an example of this theory, as informal institutions depend on one another for success, feasibility and profitability. Therefore, with regards to spaza shops, it is assumed that the sustainability of some spaza shops elucidates the theory of Institutional Economics, due to no government intervention, with spaza shops entirely dependent on the community. Generally, it is believed that the informal economy is unstructured, unorganised, simple and irregular, while the Institutional Economics theory considers it to be highly structured, occasionally more than the formal economy (Guha-Khasnobis *et al.*, 2005:7-9). The informal economy is, therefore, merely an indication that institutions and the community are capable of self-organising economic structures with or without government intervention (Guha-Khasnobis *et al.*, 2005:11).

This exemplifies that every aspect of institutions influences the other. Therefore, it is crucial to be aware of the norms, values and standards that affect the behavioural pattern of consumers in each institution in a society. In being aware of the society's behavioural patterns, the community's market outcome is easier to determine as well as the allocation of resources via the market system. The opposite should also be considered: that the market outcome and the allocation of resources may also impact the human behaviour of the community members. This is due to the community members arranging behavioural patterns in accordance with how the resources are allocated as well as the norms, values and standards.

4.3 New Economic Geography

New Economic Geography, particularly the work of Venables and Krugman, analyse how the economy, including transportation costs, supply and demand, and return levels of economic activities, influence and shape the location of the economic activities (Pflüger, 2004:565). The geography of a settlement determines the production and quantity of factor endowments while also restricting a variety of advantageous interactions between economic factors comprising investment, trade, knowledge spillovers, ideas and technology (Venables, 2005:63). The New Economic Geography is an integrated approach to urban economics, emphasising the significance of clustering forces in promoting a spatially unequal distribution of economic activity and income (Venables, 2016). One aspect of the New Economic Geography expects living costs to be lower in the core or city centre compared to the peripheral area; however, in reality, living cost is higher in areas of agglomeration (Suedekum, 2006). Paul Krugman is one of the numerous economists who study the phenomenon of New Economic Geography, focusing on the importance of a region in promoting economic competitiveness (Pinch & Henry, 1999). In accordance with living costs, Krugman supports the perception that living costs tend to be higher in the peripheral area, due to higher competition in the core area with higher agglomeration and lower transportation costs (Suedekum, 2006:529-530). When transportation costs are higher, it may prevent agglomeration, while lower transportation costs may benefit from scale economies in production (Pinch & Henry, 1999:818). With the decrease in transportation costs, the necessity to reside near agglomeration markets decreases, causing production to separate (Pinch & Henry, 1999:818). Pflüger (2003:565) indicates that the interaction between transportation costs, supply and demand, and the increasing returns at firm level, form and transform the location of economic activity in a settlement. In low-income settlements specifically, it may be assumed that transportation costs may be substituted with walking time (with reference to consumers), as the ownership of cars and transport is lower in informal than in formal urban settlements. It may also be assumed that transportation costs may include fares for public transport (Pflüger, 2003:565), or taxi fares in the case of low-income settlements.

This corresponds with the argument of O'Sullivan in the section focusing on the economy and the location of spaza shops (c.f. section 3.4). Economists usually analyse and explore the choices individuals make when resources are restricted, as well as geographical decisions economic activities and enterprises make in order to maximise profit, identifying inefficiencies in location and exploring more effective locations to maximise profit (O'Sullivan, 2009:1). With regards to the location of economic activities active in the informal economy, population density surrounding different economic activities may ensure more economically feasible economic activities when concentrated in a fairly small settlement (O'Sullivan, 2009:2). The most profitable location for economic activities is to be located close to a vast number of consumers (Venables, 2005:73).

This concentration of economic activities may also reduce transportation costs of the consumer, subsequently attracting more consumers, increasing job opportunities, while also being able to reduce the prices of products, again attracting more consumers (Todaro & Smith, 2003:323). Considering spaza shops clustering together in a residential area, Todaro and Smith (2003:317) motivate the economic feasibility of this, articulating that these retail facilities may lead to agglomeration economics due to these spillovers of knowledge, ensuring competitive advantages. Market competition also has a spatial dimension with the profit of each retail facility being influenced by the location of the other (O'Sullivan, 2009:11). Therefore, the spatial competition of the market is identified as monopolistic competition, with marginally differentiated products in one area with unrestricted entry, enabling consumers to easily switch from one retail facility to another (O'Sullivan, 2009:11). One market therefore has a local monopoly over the surrounding area. This is due to consumers and employees (or those in search of a job) being dependent on transportation costs and may prefer to be located near the retail facility (Todaro & Smith, 2003:316-317). With an increased number of economic activities clustering together, competition for labour, labour costs and wages also increase (O'Sullivan, 2009:48).

Krugman (1992:5) suggests that agglomeration comprises the interface between transportation costs, increasing returns of individual production capability and factor mobility. Therefore, it is more profitable to concentrate similar production at different locations with superior access to markets and suppliers in order to support backward and forward linkages (Krugman, 1992:5). Venables (2005:73) argues that numerous economic activities supply one another, and therefore tend to cluster together in order to locate near the output demand sources, supporting the backward (or demand) linkage. In contradiction to this, firms purchasing the other firms' output may locate near the suppliers, supporting the forward (or cost) linkage. Agglomeration of economic activities is an effect of the combination of both the backward and forward linkages (Venables, 2005:73). This corresponds with Todaro and Smith considering the theoretical background of Economics in Planning (c.f. section 3.2). Urban areas are planned to provide cost advantages for consumers as well as producers, known as agglomeration economies, causing forward and backward linkages (Todaro & Smith, 2003:316-317). For example, with high transportation costs, consumers may benefit from markets located nearby, causing forward linkages, while related industries located in the same city may attract more job opportunities, causing backward linkages (Todaro & Smith, 2003:317). With agglomeration providing vast markets, these forward and backward linkages are able to attract different and new productions, further expanding the local market (Krugman, 1992:8).

With the expansion of local market due to increasing returns, it is vital to manage problems regarding the market structure. In traditional urban models, it is assumed that increasing returns are merely an external factor, assuming perfect competition (Krugman, 1992:9). However, the

approach in the New Economic Geography avoids any direct assumption of external economies. Externalities are a consequence of economies of scale at the individual firm level influencing the market interactions, indicating an imperfectly competitive market structure (Krugman, 1992:10). Venables (2005:76) suggests that there are several geographically concentrated sources of increasing returns to scale, encouraging economic activities to cluster together. In contradiction to this, forces of dispersion are moving in the opposite direction, in three different forces. First, overcrowding has a number of negative externalities. Second is the supply of static factors, due to prices being overvalued in economic activity centres, prompting economic activities to relocate to lower-cost areas. The third factor is the market's size, constrained by the prevalence of geographically scattered production demand. The significance of these dispersion forces is dependent on the static and mobile variables (Venables, 2005:76). The balance between dispersion forces and agglomeration determines the output of economic activities (Venables, 2005:77). For example, with high transportation costs, economic activity is distributed so that every location will meet the demand of the consumers. If transportation costs are low, it is not important for economic activities to locate close to other markets and suppliers, and therefore, agglomeration is at its maximum at an intermediate transportation cost (Venables, 2005:77). Correspondingly, the Central Place Theory emphasises the interaction between transportation costs and economies of scale, indicating an opportunity cost between the two factors. According to this theory, economic activities' endeavours to optimise this opportunity cost may contribute to the development of a framework for the location of production to be evenly distributed across a settlement. This framework is presumably in a hierarchical structure where economic activities with lower transportation costs or higher scale economies are concentrated in a smaller number of larger settlements (Krugman, 1992:8-9).

4.4 Central Place Theory

Through the years, the reasons for the establishment of settlements progressed from factors that were physically and environmentally orientated towards the economic activities surrounding location, emphasising the importance of transportation systems in settlements (Pacione, 2005:33). In 1933, a theory known as the Central Place Theory, articulated by Walter Christaller, and revised by August Lösch in 1940, was proposed to explain the size, number and distribution of towns and cities that provide goods and services to the surrounding areas in southern Germany (Hughes, 1972:121). This theory may be associated with the New Economic Geography theory, providing a geographical framework for the distribution of economic activities (Mulligan *et al.*, 2012:407). As elucidated by the New Economic Geography, a spatial pattern develops in settlements through competition (Pacione, 2005:165), highlighting the important impact location has in contributing to competition between similar economic activities (Calciu & Salerno, 1997:1). The Central Place Theory, therefore, analyses the spatial distribution of market and market areas

that are distinguished by the level of functional significance (Dacey, 1965:111). According to Hughes (1972:121), each market and market area, also known as central places, may be ranked in a hierarchy based on the size of the population as well as the available goods and services. This confirms a strong relationship between the population and the central places, with certain economic activities that serve the surrounding population and the size of the population contributing to the number of available economic activities (Forbes, 1972:15). Taylor *et al.* (2010:2805) also argue that the Central Place Theory expounds settlement geography and specifically retail geography, suggesting that it provides a theoretical foundation for the location of retail facilities in central places (Kohsaka, 1989:338). In order to do so, this theory has the ability to integrate different concepts, including 1) economic activities' agglomerations, 2) consumer choices, and 3) the functional hierarchy of settlements (Mulligan *et al.*, 2012:410).

According to Mulligan *et al.* (2012:410) it may be observed that consumers attempt to distribute according to the location of economic activities to reduce the overall cost of acquiring goods and services. Therefore, economic activities eventually settle on price-location solutions in order to minimise consumers' transportation costs. These economic activities then cluster together to ensure profit from mutual benefits while simultaneously promoting the development of a hierarchy that optimises the supply of all feasible goods and services (Mulligan *et al.*, 2012:410). As different economic activities cluster together, the Central Place Theory also supports agglomeration benefits since different economic activities complement each other's core functions (Molotch & Ponzini, 2019:11). Forbes (1972:15) agrees with this by defining a central place as an agglomeration between the population and the economic activities serving the population. Lakshmanan and Hansen (1965:134) supplementary suggests that retail facilities are consumer-orientated, and that the number and size of retail facilities in a settlement depend on the number of consumers and the income levels in the settlement. This also includes the demography, consumer characteristics, socio-economic structure, income levels, willingness to spend, and shopping behaviour of the consumers (Kohsaka, 1989:340). While retail facilities are consumer-orientated, the location of these economic activities influences the transportation costs of the consumer, consequently causing the movement pattern of the consumer to affect the location of the retail facility (Lakshmanan & Hansen, 1965:135). This impacts the competitive environment of economic activities (Kohsaka, 1989:340), assuming that consumers would rather travel to the nearest retail facilities, or larger retail facilities, due to a broader market area and range of goods and services (Lakshmanan & Hansen, 1965:135).

While the Central Place Theory is theoretically known for the distribution and location of retail facilities, some studies have emphasised a number of flaws and limitations in this theory, especially regarding the spatial structure and distribution of economic activities as it is assumed to be uniform (Calciu & Salerno, 1997:4). According to Pacione (2005:165-166), the Central Place

Theory is based on several assumptions. Firstly, it is assumed that there is an unlimited area with equal transportation capability in all directions, with transportation costs equal to the distance travelled and only one mode of transportation available. The population is also evenly distributed, with central places centrally located to optimally provide services and goods to the surrounding areas. Therefore, the distance between consumers and central places is minimised in order to reduce travel time, while the distance between different suppliers is maximised in order to extend the market area. Higher-order and lower-order facilities also provide the same functions, while higher-order facilities offer additional functions. Finally it is also assumed in this theory that all consumers have equal income as well as the same demand for goods and services (Pacione, 2005:165-166). In view of these assumptions, Pacione (2005:169) suggests that the Central Place Theory is merely theoretical and static as it does not consider the continuous changes in the population, supply and demand, values of goods, the size of central places, transportation modes, as well as competition between economic activities. The assumption of a tendency towards perfect competition is also not realistic as the reality of the distribution of retail facilities denotes imperfect competition, suggested in the New Economic Geography (c.f. section 5.3). This imperfect competition is illuminated by more flexible spatial variants and the uneven distribution of the population (Meijers, 2007:247). Settlements are also not always hierarchical in reality, but rather complementary to fulfil advantageous roles in different economic activities (Meijers, 2007:258). Instead of the hexagons or classic “beehive” delineation pattern associated with the Central Place Theory, Calciu and Salerno (1997:4-5) suggest a more flexible polygonal approach to demarcating market areas, as this may be a more relevant reflection of the reality that settlements do not comprise endless available space, and that consumers and area are not evenly distributed.

On the contrary, Allen and Sanglier (1979:257) argue that the Central Place Theory effectively reflects the spatial distribution of employment and the market area that adapts according to the spatial distribution of the population, while the employment opportunities in turn influence the spatial distribution of the population. This study supports the notion that this is true in a self-organising system, correlating with a continuum of spatial instabilities in which minor density variations, perhaps of unpredictable origin, are enhanced by interactions between the elements of this self-organisation. This may result in a paradigm shift in the overall structure of spatial distributions (Allen & Sanglier, 1979:257). Therefore, while the Central Place Theory has limitations, it may be prevalent in low-income settlements due to the self-organising structure of these settlements. This is evident in studies completed in the low-income settlements’ patterns in Iowa, as well as the rural hierarchy prevalent in China (Taylor *et al.*, 2010:2807). Mulligan *et al.* (2012:412) also suggest the foundations of the central places in a settlement are minor clusters of economic activities, evenly distributed in the settlements, serving rural households with services and goods. The idea of centrality is the extent of a central place to serve surrounding

settlements, evaluated in terms of the services and goods offered, initiating the development of different contributing elements (Pacione, 2005:166). These elements include 1) the range of goods and services, 2) the sphere of influence, and 3) the threshold population (Onokerhoraye, 1999:5-6).

4.4.1 Range of goods and services

One crucial element in the Central Place Theory is the concept of the range of goods and services. The range of goods and services is identified by Berry and Garrison (1985:304), as the distance from a node that a person is able or willing to travel to purchase a certain good, or to obtain a certain function (Forbes, 1972:15). The range of goods and services is the measurement of centrality in the Central Place Theory, affecting the sphere of influence of a central place, a central good or service (Young, 1978:76). Christaller suggested in 1933 that the maximum distance consumers are willing to travel for goods or services define the outer limit of the market area. Correspondingly, the minimum demand for an economic activity to be feasible and viable defines the inner limit of the market area (Calciu & Salerno, 1997:3). In 1940, Lösch added to this theory, considering that the demand for economic activities decreases as the distance increases for consumers due to an increase in transportation cost, suggesting that the volume of the spatial demand determines the economic feasibility and viability of a location (Calciu & Salerno, 1997:3). Subsequently, at a certain range, the transportation costs and travel time may not compensate for the demand and value of the good or service (Pacione, 2005:166).

A larger central place will offer a wider range of goods and services than a smaller central place, as confirmed by Clark and Rushton (1970:487). This is due to smaller central places only providing goods with low-scale economies (Hsu *et al.*, 2013:1). Hsu *et al.* (2013:1) also argue that smaller central places may be captured within the market area of larger central places, providing alternative goods. The range of goods and services will also be dependent on the socio-economic status of the population, with variables such as age, car ownership and income levels influencing the range, as well as the consumption patterns (Fingleton, 1974:131). A younger population with a higher level of income and car-ownership will, for instance, be more likely to travel a further range for the consumption of goods, as emphasised by Fingleton (1974:131). The inner range includes enough consumers for a regular economic activity to break even, while the outer range encompasses all consumers that are willing to travel further for specific, usually more scarce, goods and services. The difference between the inner and outer ranges denotes imperfect competition and may result in a profit surplus or monopoly for the economic activity (Mulligan *et al.*, 2012:407). As alluded to, the range of goods and services ultimately determines the sphere of influence of a central place and its functions.

4.4.2 Sphere of influence

In developing a region, a city is an important node that connects various surrounding nodes and hinterlands (Deng *et al.*, 2010:353). Mandal *et al.* (2015:99) explain that these central nodes act as market areas for surrounding areas, providing goods and services. The surrounding area or hinterland is known as the city's sphere of influence (Mandal *et al.*, 2015:99). Therefore, the sphere of influence determines the market area. Determining the sphere of influence is essential in improving the competitiveness between the central area and its surrounding areas. These central and surrounding areas are economically and socially dependent on the attraction factors of the settlement (Deng *et al.*, 2010:353). The more attractive the central city, the larger the sphere of influence of the surrounding area (Drezner *et al.*, 2011:101). With the surrounding areas dependent on the central area's sphere of influence, the possibility of a loss of demand is a reality, as motivated by Drenzer *et al.* (2011:101). This is significant when a consumer is not located within the sphere of influence of a certain economic activity. In contradiction, when demand is met in more than one competing economic activity in the same sphere of influence, the supply will be equally divided amongst all these economic activities (Drezner *et al.*, 2012:1721).

In the Central Place Theory, uniform market areas may be represented with a fixed radius for the spheres of influence (Calciu & Salerno, 1997:3). To determine the uniformity of these economic activities, hexagons are drawn around the different economic activities (Johnson, 1971:163). In Figure 4-1, it is illustrated that the distribution of circles around central places, goods and services may overlap, ensuring perfect competition and that all consumers are supplied (Calciu & Salerno, 1997:3).

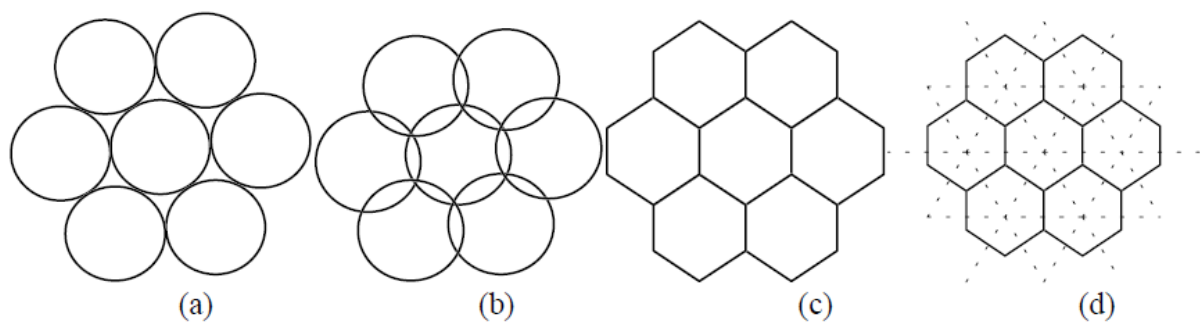


Figure 5-5: Triangular-hexagonal structure covering the spheres of influence with a maximum number of distribution points

Source: Calciu & Salerno, 1997:4

Consumers residing in overlapping market areas (determined by the sphere of influence) may choose the nearest economic activity, allowing the circles to conform to a hexagonal shape for the market areas (Pacione, 2005:166). The hexagons illustrate uniform goods and service centres with equal market sizes, located in areas with equal distances from the central places (Calciu &

Salerno, 1997:4). These central places are distributed to be near the consumers, and therefore the hexagonal shape of the market areas permits a maximum number of central places while minimising transportation costs and travel distance for the consumers (Pacione, 2005:168). Figure 4-2 illustrates the general model of the location, size and spacing of settlements according to the economic principles and the geometric properties of the Central Place Theory (Pacione, 2005:169).

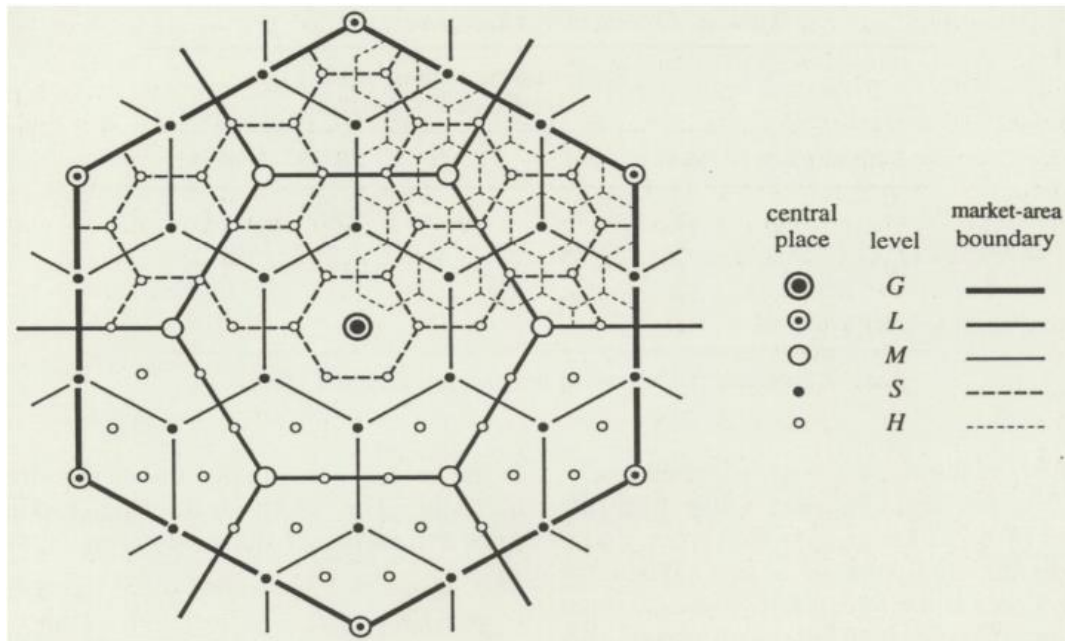


Figure 5-6: Hierarchy of Central Places According to the Central Place Theory

Source: Ishikawa & Toda (2002:482)

When this pattern covers the market areas with no gaps or overlapping, the distribution of the economic activities is uniform and serves an optimal market area with perfect competition. Figure 4-2 identifies that larger economic activities, in this case, economic activities on level G, will serve a larger market area, while smaller economic activities on level H, will serve a smaller area (Ishikawa & Toda, 2002:482).

4.4.3 Threshold population

The interrelationship and the functional basis of the distribution of economic activities, as well as central goods and services may be evaluated with the use of the concept of a threshold population, relating to the size of a economic activity relative to its goods and services (Reeves & Gibson, 1973:14). Berry and Garrison (1958:306) and Onokerhoraye (1980:199) define the threshold population as the minimum population size required to support the supply of a certain good or service in a central place, ensuring that sales are sufficient enough for the economic activity to be profitable. Therefore, a minimum population size for an agglomeration of consumers is required for a certain good or service to be provided (Forbes, 1972:15). Further to

this, the demand of the population must be stimulated to sustain the supply of the specific good or service (Forsyth *et al.*, 1992:305), contributing to the adequacy of the quality of the good or service being supplied (Rushton, 1988:106).

Only a small percentage of all economic activities are able to provide higher-order goods and services, and only a small percentage can be self-sufficient (Meijers, 2007:246). The number of thresholds that the aggregate population of the central place and the surrounding settlements are able to sustain, determine the variety of goods and services supplied by economic activities in the central places. Each supplier has a minimum demand threshold and a geographic range beyond which consumers are unwilling to obtain the specific good or service (Meijers, 2007:247). The rationale for the development of a hierarchical system of economic activities is provided by a combination of the elements of threshold population and geographic range (Mulligan *et al.*, 2012:407), as precedingly discussed. In accordance with this hierarchical system, higher-order economic activities are usually more scarce and comprises a larger threshold population, while lower-order economic activities, are generally abundant, including, for example, convenience retail facilities and spaza shops, that requires a significantly smaller threshold population. It is, therefore, evident from the preceding discussion, that the Central Place Theory, despite profuse criticism, still offers valid principles for economic analysis in spatial planning that may well inform the spatial distribution of spaza shops in urban and rural low-income settlements.

4.5 Summary

With economics *inter alia* exploring and analysing the geographic distribution of scarce resources used for competitive markets, it is evident that the purpose of economics and Planning are related. Various economic and Planning theories, discussed in this chapter, clarify and motivate the integration of these two fields of research and how the two fields influence each other. In this chapter, a theoretical context to the role and importance of economics in Planning was provided, affording an enhanced understanding of the impact that the economy may have on the location and geography of the economic activities within settlements and vice versa. This also provides an argument for the use of economics in Planning, in order to explicate, *inter alia*, the development and sustainability of spaza shops in low-income settlements. The following chapter aims to provide insight into Planning directives relating to the spatial distribution of economic activities, specifically focusing on spaza shops and the informal economy, to determine current spatial planning guidelines regarding the location, distribution and spheres of influence of spaza shops.

CHAPTER 5: CURRENT DIRECTIVES ON THE SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITIES IN SOUTH AFRICA

This chapter aims to address Objective 3 of this study:

3) Provide an overview of the current directives regarding the spatial distribution of economic activities and spaza shops in South Africa.

In order to identify guidelines for the spatial distribution of economic activities, specifically spaza shops, it is essential to examine the current directives regarding the economics and Planning of low-income settlements, as explained in the preceding chapter (c.f. section 4). In South Africa, all spatial planning is regulated by SPLUMA (section 5.1). Two other prominent directives frequently used by Planners to inform the spatial distribution of economic activities, include The Classification and Hierarchy of Retail Facilities in South Africa (section 5.2) and the Guidelines for Human Settlement Planning and Design (section 5.3) as compiled by the CSIR. Therefore, in this chapter, these three directives are analysed and evaluated in terms of guidelines for the spatial distribution of economic activities and spaza shops in low-income settlements. Thereafter, a summary of the current directives and the importance of these directives on spaza shops are pertained (section 5.4). A theoretical matrix is finally provided (section 5.5) in order to provide codes, categories and themes that were extracted from the literature during the qualitative research to inform the empirical investigation.

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

In South Africa, all spatial planning is regulated by the Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA). The Local Government: Municipal Systems Act 32 of 2000 (MSA) requires the compilation of a Spatial Development Framework (SDF), and includes basic guidelines for developing a land use management system in municipalities, as stipulated in Section 26(e). Therefore, this section in the MSA aims to provide a legislative framework for spatial planning in local municipalities. Following the MSA, SPLUMA was promulgated in 2013 and is a national legislative act that addresses previous spatial imbalances by unifying spatial planning and land use management, as well as economic and social cohesion. It necessitates the compilation of SDFs on municipal level to administer these solutions, and further specifies the particular requirements for SDFs. It mandates that all municipalities develop a SDF that adheres to specific standards established in Article 21 of SPLUMA. SPLUMA outlines development principles for spatial planning in South Africa in Article 7, further supported by Article 3(f) (Spatial Planning and Land Use Management Act 16 of 2013), requiring that spatial planning should “redress the imbalances of the past to ensure that there is equity in the application of spatial

development planning and land use management systems". SDFs aim to address these spatial inequalities in South African urban and rural settlements and support SPLUMA's principles by providing direction to the spatial conceptualisation and development of settlements. According to SPLUMA, traditional and informal land use development processes in low-income settlements are currently not adequately integrated into formal spatial planning and land use management systems.

Although SPLUMA recognises the importance of integrating informal land use development processes into formal spatial planning and land use management systems, the informal economy and spatial planning for low-income settlements are not adequately addressed in the SPLUMA legislation, as it is merely mentioned in a few development principles and Articles. The development principles in Article 7(a)(ii), specifically requires that SDFs address the inclusion of formerly excluded residents of informal and low-income settlements, characterised by poverty and deprivation. This is in accordance with Article 12(h), emphasising the preparation of SDFs, requiring SDFs to include formerly excluded residents of informal and low-income settlements to be integrated into the economic, social, spatial and environmental objectives of relevant development spheres. Municipalities are also mandated to introduce land use management systems into all areas of municipalities, as stated in the development principle of Article 7(a)(iv), specifically including "provisions that are flexible and appropriate for the management of disadvantaged areas, informal or low-income settlements". The upgrading of informal settlements should also be incorporated into land development procedures, as specified in Article 7(a)(v), accommodating access to secure tenure and development. Therefore, the upgrading of informal and low-income settlements corresponds with the formalisation of these settlements, including "any matters related to tenure, land use control and the provision of services to such areas", as stipulated in Schedule 1(g)(viii). In terms of land use management and specific land development procedures, Article 24(2)(c) necessitates the inclusion of previously excluded informal and low-income settlements into the municipal Land Use Schemes (LUS) in order to introduce land use management and regulation in these areas. This implies that municipal land use schemes should make provision for specific control measures regarding the development of economic activities, inter alia, spaza shops.

SDFs, as described in Article 22(1), provide the foundation for land development decisions and address issues of segregation and inequality in spatial planning (Spaliviero *et al.*, 2019:235). SPLUMA, SDFs and LUSs are used to evaluate the spatial distribution of economic activities in settlements, examine the applicable policies and legislation developed to address these concerns, and thereafter develop new and improved spatial planning strategies for settlements requiring attention (Spaliviero *et al.*, 2019:235). These directives, however, have been critiqued for failing to adequately manage spatial change (Todes *et al.*, 2010:415; Todes, 2017:130) and

for lacking institutional coordination (Du Plessis & Boonzaaier, 2015:89). Therefore, it may be argued that SPLUMA does not adequately provide direction for the integration of informal and low-income settlements into spatial planning directives, and merely provides generic development principles and vague guidelines in this regard. It is therefore essential to examine supplementary directives providing guidelines for spatial development and layout principles, including the Classification and Hierarchy of Retail Facilities in South Africa and the CSIR Guidelines for Human Settlement Planning and Design.

5.2 The Classification and Hierarchy of Retail Facilities in South Africa

In villages, towns, cities and metropolitan areas, the spatial and hierarchical distribution of economic activities (i.e., retail facilities), as explicated by the Central Place Theory (c.f. section 4.4), are of considerable interest to specifically urban planners, property developers, urban geographers and retailers (Prinsloo, 2010:1). With planned (formal) and unplanned (informal) retail facilities prevalent in both urban and rural settlements, mainly planned or formal suburban retail facilities are classified with a hierarchical distribution (Prinsloo, 2010:2). Articulated by Prinsloo (2016:52), the Classification and Hierarchy of Retail Facilities in South Africa identifies different retail facilities in a hierarchy of supply markets segments. Incorporating various socio-economic criteria may enhance understanding of urban and metropolitan retail facilities, but may also be applicable to similar economic activities in rural settlements. This includes the difference in disposable income between different socio-economic groups to determine the LSM levels of households. Transport availability and the level of mobility, as well as the threshold population, are also included socio-economic criteria (Prinsloo, 2016:6). Figure 5-1 depicts that these retail facilities are divided into four types of retail, being (1) planned (formal) retail facilities, (2) specialist or focus retail facilities, (3) unplanned (informal) retail facilities and (4) rural retail facilities (Prinsloo, 2016:5).

Planned		Unplanned	Rural
<u>Core Classification</u>	<u>Specialist</u>		
• Small free standing and convenience • Neighbourhood • Community • Small regional/ large community • Regional • Super Regional	• Big Box Retailers • Entertainment/casinos • Lifestyle • Value • Hyper • Motor showrooms and related facilities • Filling station stores • Airport retail • Centres at railway/ commuter stations • Organised flea markets	• CBD/Town Centre • Taxi rank retail/ commuter centre • Informal Traders • Spaza shops • Fresh produce markets • Morning/daily food markets	• Rural retail taxi orientated • Town centres • Informal trade • Spaza shops • Planned shopping centres

Figure 5-1: Formal (Planned) and Informal (Unplanned) Retail Facility Types in the Whole Spectrum of Retail Facilities

Source: Prinsloo, 2016:5

It is important to notice from Figure 5-1, that spaza shops are classified as both unplanned (or informal) and rural, according to Prinsloo (2016:5). Prinsloo (2016:5) also suggests that Planners should consider the market characteristics of each retail facility in the spatial planning process, including the age and gender profile, expenditures and disposable income levels, socio-economic status, and the lifestyle of the residents in the settlement. This may also influence the hierarchical levels of retail facilities, with metropolitan areas having more hierarchical levels than rural, low-income settlements, mainly consisting of one or two levels (Prinsloo, 2010:4). Therefore, the type and size of the urban or rural settlements determine the size, type, location and distribution of retail facilities (Prinsloo, 2010:6). Figure 5-2 to Figure 5-4 demonstrates these differences in the hierarchy of settlements and types of retail facilities. It provides detail regarding the type of retail facility, and the variables dependent on the type of retail facility, respectively categorised according to the 1) core, 2) specialist and 3) unplanned classifications as contained in Figure 5-1. Figure 5-2 firstly illustrates this in accordance with the core classification facilities.

Core Classification				
TYPE OF CENTRE	SIZE OF CENTRE (M²) (GLA)	TRADE AREA	ROLE AND FUNCTION	GEOGRAPHIC SEGMENTATION
Small free standing and convenience centre	500 – 5 000 5-25 stores	Serves part of a suburb	Offers express convenience	Part of metros and city suburbs
Neighbourhood centre	±5 000-±12 000 25-50 stores	Centrally located for a group of suburbs	Convenience and express convenience role	Part of metropolitan and city suburbs and townships
Community centre	±12 000-±25 000 50-100 stores	Strategically located to serve a suburban community	Larger variety of convenience products to more households	Metros, cities, large towns and rural areas
Small regional/ Large community centre	±25 000-±50 000 75-150 stores	Specific sub region of city (can be large self contained community, i.e. Chatsworth)	Larger community and much wider tenant mix. More a community than regional role	Metros, cities, large towns and rural areas
Regional centre	±50 000-±100 000 150-250 stores	Large region of city/or whole city/rural towns	Large primary and secondary trade areas. Also support from tertiary trade area. Part of a business node	Metros, large cities and metro township areas
Super regional centre	>100 000 >250 stores	Large region in city and surrounding areas/ Tourists	Serves whole metro, region, national and international visitors offering widest tenant mix	Metropolitan suburban
NO. OF HOUSEHOLDS	SOCIO-ECONOMIC SEGMENTS	TRADE AREA AVE RADIUS (KM)	MEDIAN TRAVEL TIME (MINS)	MAIN TENANTS
LSM 1-5, <10 000 LSM 6-9, <5 000 LSM 10-10+ <2 000	All LSM groups	1 – 1.5	<3	- small grocery store - few convenience stores
LSM 1-5, (20 000-47 000) LSM 6-9, (9 000-20 000) LSM 10-10+(3 600-8 500)	All LSM 4-10	2	4-9	- supermarket - convenience - some small specialised stores
LSM 1-5, (44 000-102 000) LSM 6-9, (15 000-46 000) LSM 10-10+ (5 000-12 000)	All LSM 4-10	3	6-14	- large supermarket(s) - convenience - small national clothing - restaurants & takeaways - services
LSM 1-5, (90 000-209 000) LSM 6-9, (40 000-90 000) LSM 10-10+, (16 000-37 000)	All LSM 4-10	3-5	10-16	- large supermarket(s) 1 or 2 large clothing anchors - strong national tenant - comparison goods component - boutiques - restaurants - entertainment - services
LSM 1-5, (180 000-420 000) LSM 6-9, (80 000-185 000) LSM 10-10+, (33 000-76 000)	All LSM 4-10	5-8	14-20	- large supermarkets (even 2) or hyper 3 or more large clothing stores - small clothing stores and boutiques - international brands - entertainment, restaurants - services - convenience
LSM 6-9, (106 000-250 000) LSM 10-10+, (44 000-101 000)	Above average LSM 5-10	10+	24-30	Same as regional but more emphasis on entertainment and variety

Figure 5-2: Core Classification and Hierarchy of Planned Retail Facilities in South Africa

Source: Prinsloo, 2016:53-54

With Figure 5-2 illustrating the core classification for retail facilities, it is evident that the character of retail facilities provides a more overall indication of the living standard of the settlement. Figure 5-3 illustrates the classification and hierarchy of A-list/focus/niche planned retail facilities in South Africa.

A List/Focus/Niche Centres

TYPE OF CENTRE	SIZE OF CENTRE (M ²) (GLA)	TRADE AREA	ROLE AND FUNCTION	GEOGRAPHIC SEGMENTATION
Big Box Retailers	Vary from 2 000 to 15 000	Depend on type of store or centre - mostly on regional level	Large single building with one shop offering specialist products	Metros and city suburbs
Entertainment /Casino	Vary from 10 000 to 50 000	Depend on type of store or centre - mostly on regional level	Offer gaming, entertainment, restaurants and retail facilities	Metros, cities and rural areas
Lifestyle Centre	15 000 – 50 000 (can be smaller or larger)	Upmarket trade areas	Upmarket shopping in relaxed atmosphere	Metropolitan suburban
Value Centre	10 000 – 50 000 20 – 40 stores	Next to regional sharing same trade area	Complement regional centres with stores not normally in regional centres	Metropolitan suburban and cities
Hyper Centre	15 000 – 35 000 15-20 stores	Strong correlation with regional centre	Offer groceries, hardware, appliances, clothing, furniture, household goods in large store	Metropolitan suburban and cities
Motor Showrooms	500 -5 000		Display and sell variety of car brands and models	Metros to rural
Filling Stations	30 - 600	Local & through traffic plus nearby households	Service through traffic and local households with express convenience	Metros to rural
Airport Retail	1 000 – 20 000 10-100 stores	Size of airport will determine size of retail	Satisfy retail needs of travellers, family, collectors and workers	Metropolitan and large city airports

NO. OF HOUSEHOLDS	SOCIO-ECONOMIC SEGMENTS	TRADE AREA AVE RADIUS (KM)	MEDIAN TRAVEL TIME (MINS)	MAIN TENANTS
LSM 6-9, (±25 000) LSM 10-10+, (±14 000)	Mainly above average LSM 7-10	5-10	10-30	specialist traders
LSM 6-9 (40 000-60 000) LSM 10-10+ (20 000+)	Average and higher LSM 5-10	5-30	10-30	- specialist traders/ entertainment and/ or theme centre - emphasis on food, restaurants & fast food outlets
LSM 6-9 (40 000-60 000) LSM 10-10+ (20 000-30 000)	Mainly LSM 9-10	3-8	6 - 15	- upscale supermarket - book stores - dining - entertainment - speciality retail (house/home/ garden) - fresh produce stores
LSM 6-9 (40 000-60 000) LSM 10-10+ (20 000-30 000)	Middle to above average LSM 6-10	3-6	10-15	- emphasis on big box retailers - specialist retailers - home improvement - small to large groceries
LSM 10-10+ (21 400 - 50 000) LSM 6-9 (60 000- 100 000)	Middle to above average LSM 5-10	6-8	10-15	- one hyper store (70% of area) - convenience line stores - services
	Higher LSM suburbs			
Depend on size and location of filling station	All LSM 4-10			- convenience store - ATM - fast food - car wash
	Mainly higher LSM			- mainly food - curio's & souvenirs - clothing - exchange services

Figure 5-3: Focus/Niche Centres Classification and Hierarchy of Planned Retail Facilities in South Africa

Source: Prinsloo, 2016:55-56

With Figures 5-2 and 5-3 illustrating a classification and hierarchy for planned or formal retail facilities, it is evident from discussions regarding the informal economy in preceding chapters (c.f. sections 1.1 and 3.2) that both urban and rural settlements also comprise unplanned (informal) retail facilities. Figure 5-4 subsequently illustrates the classification and hierarchy of unplanned (informal) retail facilities in South Africa.

Unplanned/Incremental Classifications				
TYPE OF CENTRE	SIZE OF CENTRE (M ²) (GLA)	TRADE AREA	ROLE AND FUNCTION	GEOGRAPHIC SEGMENTATION
CBD / Town Centre	Vary from 10 000 to 200 000 Number of stores depend on size of city/town	Metro/city wide	Provide retail facilities to workers and township commuters and shoppers	Metropolitan and city CBD and town centre
Taxi Rank Retail / Commuter Centre	10 000 to 15 000 Depending on size and importance of station	Metro/city wide	Provide retail facilities to workers and township commuters and shoppers	Metropolitan and city CBD and town centre
Flea Markets / Informal Trade	Vary from a few stands to hundreds of stands	Focusing on passing pedestrian volumes	Serve community and festive shoppers. High pedestrian volume areas	Metros, cities and towns
Spaza Shops	10 – 50	Provide for surrounding residents – Walking distance 100m	Express convenience	Township and rural areas
Rural Retail Development	5 000 – 50 000	Whole community up to 50km	Service whole community	Rural areas
NO. OF HOUSEHOLDS	SOCIO-ECONOMIC SEGMENTS	TRADE AREA AVE RADIUS (KM)	MEDIAN TRAVEL TIME (MINS)	MAIN TENANTS
Linked to metro/city or rural area	Dominant LSM 3-8	Not fixed- Up to 50 km	Mainly by taxi	Wide variety of tenants including: • national tenants • supermarkets • homeware stores • furniture stores • cell phone shops • banking facilities
Linked to metro/city or rural area	Mainly LSM 1-6	Not fixed- Up to 50 km	20 minutes plus	• national tenants • supermarkets • homeware stores • fast food outlets • cell phone shops • ATM facilities
Not applicable	Mainly LSM 1-6	Part of larger town/ rural trade area	Passing by	• food • clothing and shoes • fruit and vegetables • electronic equipment and cell phones • music and DVDs
200 - 400+	Mainly LSM 1-6	Up to 100m	Up to 5 minutes walking distance	• convenience grocery goods • cigarettes
20 000 - 210 000	Mainly LSM 1-5	Very wide up to 80 km	Up to 45 minutes	• depend on the size – need to focus on the needs of the surrounding community

Figure 5-4: Classification and Hierarchy of Unplanned Retail Facilities in South Africa

Source: Prinsloo, 2016:57-58

As alluded to earlier and illustrated in Figure 5-4, spaza shops are identified in this classification as part of the unplanned (or informal) or rural retail facilities. It was also explained in Chapter 3 (c.f. section 3.3) that spaza shops are considered as part of the informal trade sector, thereby indicating its role in the informal economy (Prinsloo, 2010:65). The role and function of spaza shops are indicated by Prinsloo (2010:65) as mainly an express convenience retail facility for residents of urban and rural low-income settlements (townships and rural areas) and as an additional income for the owner. In the Classification and Hierarchy of Retail Facilities in South Africa, Prinsloo (2016:49), expresses that spaza shops are mainly sized between 10-50m², but never more than approximately 100m², catering for a population no further than 100 to 300 meters away, depending on the LSM level of surrounding households and the direct market competition. Therefore, Figure 5-4 indicates that spaza shops generally have a sphere of influence of 100 meters with the consumer usually having to walk an estimated travel time of 5 minutes (Prinsloo, 2016:58). Having almost no location criteria, spaza shops may be found anywhere in a low-income urban or rural settlement, usually in a location of high visibility (Prinsloo, 2016:50), with each spaza shop serving an estimated 200-400 or more households (Prinsloo, 2016:58). The community being served may be categorised as the low or middle to low socio-economic group (Prinsloo, 2016:50), and therefore spaza shops usually serve households with an LSM level of 1-6 (Prinsloo, 2016:58). Spaza shops do not comprise any specific market-related establishment guidelines, and mainly originate as a result of entrepreneurship, to facilitate the absence of convenience retail facilities, or to gain income (Prinsloo, 2010:66). This unpredictable nature of spaza shops complicates the anticipation of their establishment in spatial planning guidelines. The ensuing section aims to contextualise spatial planning guidelines for retail facilities in low-income settlements.

5.3 Guidelines for retail facilities in low-income settlements according to the CSIR Guidelines for Human Settlement Planning and Design

The CSIR Guidelines for Human Settlement Planning and Design comprise guiding principles compiled to improve the planning and design of infrastructure and services, in particular settlement layout, social facilities, transportation, housing, public open spaces, sanitation, water, solid waste management, storm water, energy and cross-cutting issues in human settlements (CSIR, 2019:9). In achieving this, the aim of these guidelines is to address planning and design challenges in South Africa, while supporting the endeavour of achieving the Sustainable Development Goals of the New Urban Agenda and Agenda 2063 (CSIR, 2019:29). Therefore, practical guidance is provided to improve the quality of settlements through the implementation of planning and design to improve decision-making and to promote Urban Planning and design in settlements in order to improve the efficiency of delivering services and infrastructure (CSIR, 2019:29).

Many settlements continue to see an increase in residents seeking employment in local central business districts (CBDs) and inner-city neighbourhoods (CSIR, 2019:15). Unfortunately, adequate housing may not always be accessible, leading to the establishment of low-income and informal settlements with substandard living conditions. Various economic activities, including a myriad of informal economic activities, have been established in these low-income settlements, to fulfil the needs of a changing consumer base (CSIR, 2019:15). Changes in the space economy are specifically evident in public spaces where vendors sell products, contributing to the informal economy in urban low-income settlements (CSIR, 2019:15). With these continuous changes in urban low-income settlements, the upgrading of these settlements differ significantly from greenfield development as well as development in rural settlements (CSIR, 2019:36).

Considering these changing urban and rural landscapes, it is vital to comprehend the differences between informal and low-income settlements and between urban and rural settlements. These distinguishing definitions were also included in Chapter 1 (c.f. section 1.9 Table 1.4) for the purpose of this study. The CSIR (2019:39) defines informal settlements as unplanned settlements consisting mainly of informal structures on land that has neither been registered nor recognised as residential; a temporary construction not authorised by a municipal government and not intended as a permanent habitation. It is characterised as illegal and informal, occupied without permission, in inappropriate and dangerous locations, with restricted investment and a lack of services, as suggested in the National Housing Code of 2009. However, it is recognised that these communities are often well organised, although it is organically organised (CSIR, 2019:40). Low-income settlements, on the other hand, are defined as settlements often located on the periphery of the urban fringe that are generally self-constructed, high-density settlements with poor housing, a lack of service delivery, generally low-income levels and being dependent on natural resources (Collins *et al.*, 2006:6; Atkinson, 2014:5; Mathebula *et al.*, 2017:19; Marutlulle, 2017:2; SERI, 2018:5; & Chenwi, 2012:540). Low-income settlements may partially or completely include informal settlements as well as formal urban or rural structures. Low-income settlements may, therefore, be classified as either urban or rural.

The CSIR (2019:40-42) further distinguishes between urban and rural settlements. The urban environment typically includes metropolitan areas, cities and towns. Urban areas provide the settings for greenfield, brownfield and informal settlement upgrading projects (CSIR, 2019:40-42). When planning and designing these types of projects, it is assumed that the condition and capacity of existing services are adequate, and infrastructure is available. Rural settlements are often sparsely populated and located outside of a city or town's boundaries (CSIR, 2019:40-42). Rural villages and small towns, dense rural communities and scattered settlements are all examples. In rural communities, the approach to planning and design of neighbourhood development initiatives is frequently comparable to those used in more urban settlements.

However, some qualities may need a less typical approach, as land ownership and tenure are important considerations, especially as land may be communal-property in these rural settlements (CSIR, 2019:40-42).

In a bottom-up approach to layout planning and design, the street layout is usually organically developed, mostly apparent in informal settlements (CSIR, 2019:F28). This is evident when the residents develop and build a neighbourhood organically, and the spontaneously developed informal settlement is then formalised with an *in-situ* upgrading initiative (CSIR, 2019:F32). In order to plan or upgrade a settlement, it is also essential to be guided by the socio-economic characteristics of the residents, as well as the needs of the neighbourhood. Therefore, it is vital to determine the population threshold for services by determining the average household size, the age profile, the income levels and the employment profile of the residents in the settlement (CSIR, 2019:H13). In developing retail facilities, it is also important to provide an appropriate size of land in a suitable location, depending on the nature and scale of the service, and the population served (CSIR, 2019:F51). The facilities (including retail facilities) should be located near a street or node that is already concentrated with economic activities, for instance, near mixed-use, or higher-density activities near public transport routes, while encouraging formal and informal retail facilities in close proximity to one another (CSIR, 2019:F57). Sidewalks accommodate surrounding activities, for example, spaza shops, and therefore pedestrians should be provided with safe and convenient sidewalk space to participate in these activities (CSIR, 2019:F46). These pedestrian sidewalks should be long, clearly recognisable and well-maintained to improve the accessibility (CSIR, 2019:F49) of the spaza shops.

Accessibility in a community may also be enhanced with mixed land uses (CSIR, 2019:I8). Mixed land uses permit an agglomeration between different facilities (i.e., retail facilities) and improve the walkability of the specific area (CSIR, 2019:F59). An example of a mixed land use area is the provision of public squares, also known as plazas, that provide a wide range of different economic activities, with permanent or temporary markets (CSIR, 2019:G22). It is important for these squares to be situated in an adequate location, ideally centrally located with visible and easy access (CSIR, 2019:G22). The section in the guidelines on public open spaces (section G), also recommends the planting of trees and shrubs surrounding the public area to soften the appearance and provide the square/plaza with a sense of place and a safe environment, generating more pedestrians (CSIR, 2019:G31), and improving accessibility to retail facilities.

Convenient neighbourhoods enable residents to accomplish daily activities efficiently, promptly, and without unnecessary delays, and therefore, economic activities should be conveniently accessible. Access is the foundation of convenience, and it is one of the most important variables influencing the location, growth and economic activities of a settlement. For residents who are unable to afford a car, public transportation is essential for accessibility, and settlements should

be designed to allow for pedestrian movement (CSIR, 2019:F9). The accessibility of and mobility to economic activities is explained in the transportation and road pavements section (section I) of the guidelines (CSIR, 2019:I9), underlining that accessibility may be improved with an enhancement of infrastructure supporting mobility. An example hereof is to improve accessibility by providing safe pedestrian crossings. The infrastructure should also be of adequate quality and should be regularly maintained to ensure safe and accessible travel (CSIR, 2019:I11) to retail facilities. Access to transportation (or the lack thereof) significantly impacts residents' ability to participate in economic activities. For example, public transportation (for example taxi's) enables individuals to commute to and from employment opportunities, as well as connecting institutions (e.g. to deliver services and goods), since a considerable majority of the South African population resides in low-income settlements and does not have access to private motor vehicles. Infrastructure that accommodates and promotes public transportation and non-motorised transportation is, therefore, critical. The capacity of residents to participate in and contribute to the economy, whether official or informal, is substantially impeded without adequate infrastructure and a dependable, safe and inexpensive public transportation system (CSIR, 2019:I10-11).

It may be concluded that, although this guideline document recognises the importance of upgrading informal and low-income settlements, and the lack of guidance to initiate an upgrade, no specific guidelines are provided with a direct impact on spaza shops or informal retail facilities. However, guidelines for retail facilities, in general, and guidelines for the surrounding areas are provided, as outlined in the preceding paragraphs.

5.4 Summary of directives

Table 5-1 offers a summary of the directives analysed in Chapter 5, specifically indicating the applicability of these directives to spaza shops and the informal economy, with comments in the last column indicating the extent to which the latter was captured or addressed within each respective directive.

Table 5-1: Summary of directives

Directive	Aim of the directive	Applicability to spaza shops and the informal economy	Comments
SPLUMA	• National legislative act • Promulgated in 2013 • Addresses previous spatial imbalances. • Necessitating municipal SDFs to administer planning solutions.	• Recognises importance of integrating informal land use development processes into formal spatial planning and municipal LUSs.	• Informal / low-income settlements & informal economy merely mentioned in the following sections: • Article 7(a)(ii) • Article 7(a)(iv) • Article 7(a)(v) • Article 12(h) • Article 24(2)(c) • Schedule 1(g)(viii) • Lacking detail regarding planning and management of informal economy and low-income settlements.
Classification and Hierachy of Retail Facilities in South Africa	• Identifies different retail facilities in a hierarchy of supply markets segments. • Incorporating different socio-economic criteria to classify urban and metropolitan retail facilities.	• Hierarchy and influence of spaza shops mentioned and explained. • Spaza shops classified as: ○ unplanned and/or rural retail facilities ○ an express convenience retail facility ○ with a sphere of influence of 100-300m ○ provide households with an LSM level of 1-6	• Provide detailed socio-economic criteria for establishment of spaza shops. • Criteria may be outdated.

Directive	Aim of the directive	Applicability to spaza shops and the informal economy	Comments
Human Settlement Planning and Design		○ mainly walking to the retail facility.	
	• Guidelines compiled to improve the planning and design of infrastructure and services. • Aims to address planning and design challenges in South Africa . • Supporting the achievement of the Sustainable Development Goals of the New Urban Agenda and Agenda 2063.	• No guidance in upgrading informal settlements and improving the informal economy. • Emphasis placed on planned formal settlements. • Guidelines for retail facilities, in general, and for the surrounding areas are provided. • Differences between urban and rural settlements are clarified. • Settings for greenfield, brownfield and informal settlement upgrading projects are provided.	Although this directive recognises the importance of upgrading informal settlements and the lack of guidance to initiate an upgrade, no guidelines are provided with direct influence on spaza shops or informal retail facilities.

Source: Own compilation (2022)

As explained in Chapter 2 (c.f. section 2.3.1) the results of the qualitative research in this study, as captured in chapters 3-5, were coded, condensed and summarised through a thematic synthesis and are represented in a theoretical matrix (Xiao & Watson, 2019:98) that are used to initiate and inform the empirical investigation (Chapter 6).

5.5 Theoretical matrix

Table 5-2 represents a theoretical matrix, summarising the codes, categories and themes that were extracted from the literature during the qualitative research, with relevant sources, through a thematic synthesis to inform the empirical investigation.

Table 5-2: Theoretical matrix summarising themes generated through the thematic synthesis

Code	Source	Category	Theme	Relevance for empirical investigation
...Argues that urban low-income settlements provide an affordable economic environment with substantial opportunities to generate income and access the urban labour market force.	Turok (2015:13)	Affordability	Urban low-income	General significance
Informal economy is expected to sustain urban entrepreneurs by providing low-cost goods and services in urban low-income settlements.	(Todaro & Smith, 2003:326)	Low-cost goods and services		General significance
This economy mainly operates as a monopolistic competitive market, with competition driving profits, providing ease of entry and excess capacity due to an average supply price of entry.	(Todaro & Smith, 2003:326)	Monopolistic competitive market		General significance
It decreases the average living costs, limits salary demands and encourages the formal sector to generate more income.	(Todaro & Smith, 2003:326)	Living costs		General significance
Reported higher prices in rural settlements than in urban settlements, due to 1) higher transportation costs, 2) little to no volume discount in rural retail facilities, 3) products that expire, break, spoil or get stolen, and 4) rural retail facilities being more labour intensive in terms of	(Ramabulana, 2011:106)	Transportation costs	Rural low-income	General significance

Code	Source	Category	Theme	Relevance for empirical investigation
transportation and loading of items.				
Primarily found in urban and rural low-income settlements, spaza shops form part of the informal economy and are defined as owner-managed, very small enterprises, usually consisting of between five and 20 employees	(Chipunza & Phalatsi, 2019:2)	Entrepreneurs		General significance
New and alternative economic activities in the informal economy are also rapidly increasing, including tourism, lifestyle activities, arts, crafts, boutique towns, nature conservation, organic farming, as well as game farming, generating more opportunities, especially for those in rural low-income settlements	(Atkinson, 2014:26)	Alternative economic activities		General significance
The economic activities present in the informal economy are mainly individually or family-owned economic activities with small-scale production and services, reliant on labour-intensive work with simple or no technology	(Todaro & Smith, 2003:326)	Individually/ family-owned economic activities	Informal economy	General significance
With the formal economy unable to cope with the rapid economic growth in cities due to urbanisation, the informal economy tends to grow rapidly	(Chenwi, 2012:546)	Rapid growth		Measurable criteria

Code	Source	Category	Theme	Relevance for empirical investigation
Therefore, having a sphere of influence of 100 meters with the consumers usually having to walk with an estimated travel time of 5 minutes	(Prinsloo, 2016:58)	Isochrone	Spatial distribution	Measurable criteria
A high population density surrounding different economic activities may, for instance, ensure more economically feasible economic activities when they are concentrated in a fairly small area	(O'Sullivan, 2009:2)	Area & population density		Measurable criteria
An agglomeration and concentration of various economic activities may also reduce transportation costs of the consumer, subsequently attracting more consumers and, increasing job opportunities	(Todaro & Smith, 2003:323).	Agglomeration/ concentration		Measurable criteria
Accessibility in a community may also be enhanced with mixed land uses. Mixed land uses permit an agglomeration between different economic activities and improve the walkability of the specific area.	(CSIR, 2019:I8); (CSIR, 2019:F59)	Mixed land use		Measurable criteria
Consumers, therefore, rather use spaza shops in low-income settlements for day-to-day groceries, with less expensive and smaller quantity products, as well as shorter travelling distances, while using formal retail	(Peyton <i>et al.</i> , 2015:50)	Travel distance		Measurable criteria

Code	Source	Category	Theme	Relevance for empirical investigation
facilities (in higher-income urban areas) for bulk products.				
1) The location of public transport nodes, for instance, taxi ranks, 2) the location of transport routes and 3) the distribution and density of the residents.	(Dewar & Watson, 2000:89)	Transportation costs		Measurable criteria
...Enabling their consumer to walk to the economic activities. Therefore, economic activities tend to cluster together on in high pedestrian-density areas, mostly in residential areas	(Eicker & Cilliers, 2019:3)	Walkability		Measurable criteria
For residents who are unable to afford a car, public transportation is essential for accessibility, and settlements should be designed to allow for pedestrian movement.	(CSIR, 2019:F9)			
Spaza shops may be found anywhere in a low-income urban or rural settlement, usually in a location of high visibility, with each spaza shop serving an estimated 200-400 or more households	(Prinsloo, 2016:50); (Prinsloo, 2016:58).	Number of households		Measurable criteria
Planners should consider the market characteristics of each facility in the planning process, including the age and gender profile, expenditures and disposable income levels, socio-economic status, and the	(Prinsloo, 2016:5)	Age and gender profile	Socio-economic criteria	Measurable criteria

Code	Source	Category	Theme	Relevance for empirical investigation
lifestyle of the residents in the settlement.				
The community being served may mainly be categorised as the low or middle to low socio-economic group, and therefore spaza shops usually serve households with an LSM of 1-6	(Prinsloo, 2016:50); (Prinsloo, 2016:58)	Household income		Measurable criteria
Therefore, it is vital to determine the population threshold for services by determining the average household size, the age profile, the income levels and the employment profile of the residents in the settlement.	(CSIR, 2019:H13)	Household size		Measurable criteria
		Employment profile		Measurable criteria
This was due to rapid population growth increasing the demand for urban development, compelling a more adequate forecasting of the long-term influence of development.	(Farthing, 2004:66)	Population growth projections		Measurable criteria
In South Africa, population growth and urbanisation initiated a backlog in housing, causing high levels of unemployment and poverty, associated with a continuous decline in economic growth.	(Levin, 1993:232)			
Some areas may achieve more economic success than other areas due to comparative advantages.	(Goldstein & Moses, 1973:471)	Comparative advantage		General significance
This includes the difference in disposable income between	(Prinsloo, 2016:6)	LSM levels		Measurable criteria

Code	Source	Category	Theme	Relevance for empirical investigation
different socio-economic groups to determine the LSM levels of households.				
Transport availability and the level of mobility, as well as the threshold population, are also included socio-economic criteria	(Prinsloo, 2016:6)	Level of mobility		Measurable criteria
Defined the threshold population as the minimum population size required to support the supply of a certain good or service in an urban economic activity, ensuring that sales are sufficient enough for the economic activity to be profitable.	(Berry & Garrison, 1958:306); (Onokerhoraye, 1980:199)	Threshold population	Central place theory	Measurable criteria
Through competition, a spatial pattern develops in settlements, highlighting the important impact location has in contributing to competition between similar economic activities	(Calciu & Salerno, 1997:1); (Pacione, 2005:165)	Spatial competition		Measurable criteria
Retail facilities situated in a residential home, typically serving a population radius of between 50m-100m	(Charman, 2017:7)	Range of goods		Measurable criteria
The range of goods is identified, as the range around a central area that a consumer is able or willing to travel to purchase a certain good, or to obtain a certain function.	(Berry & Garrison, 1985:304); (Forbes, 1972:15)			
In the Central Place Theory, uniform markets may be	(Calciu & Salerno, 1997:3).			

Code	Source	Category	Theme	Relevance for empirical investigation
represented with a fixed radius for the spheres of influence				
Mostly in developing countries, effective rules for the management and maintenance of common-pool resources are established by the community	(Hodgson, 2013:381)	Common-pool resources	Institutional Economics	General significance
Common-pool resources are, therefore, especially relevant in studying the spatial distribution of spaza shops in urban and rural low-income settlements, as this phenomenon depicts the social and cultural behaviour of communities in low-income settlements in South Africa	(Hodgson, 2013:381)			
it is assumed that the sustainability of some spaza shops elucidates the theory of Institutional Economics, due to no government intervention, with spaza shops entirely dependent on the community.	(Frischmann, 2013:6)	Government intervention		General significance
...Is an integrated approach to spatial economics, emphasising the significance of clustering forces in promoting a spatially unequal distribution of economic activity and income	(Venables, 2016); (Venables, 2005:73)	Clustering / Agglomeration	New Economic Geography	Measureable criteria
Considering spaza shops clustering together in a residential area, Todaro and	(Todaro & Smith, 2003:323);			

Code	Source	Category	Theme	Relevance for empirical investigation
Smith (2003:317) motivates the economic feasibility of this, articulating that these retail facilities may lead to agglomeration economics due to these spillovers of knowledge, ensuring competitive advantages.	(Todaro & Smith, 2003:317)			
...Analyse how the economy, including transportation costs, supply and demand, and return levels of economic activities, influence and shape the location of the economic activities	(Pflüger, 2004:565).	Transportation costs		Measureable criteria
In informal low-income settlements specifically, it may be assumed that transportation costs may be substituted with walking time, as the ownership of cars and transport is lower than in urban areas	(Pflüger, 2003:565)	Walking time		Measureable criteria
The location of economic activities active in the informal economy, population density surrounding different economic activities may ensure more economically feasible economic activities when concentrated in a fairly small area	(O'Sullivan, 2009:2)	Population density		Measureable criteria
Market competition also has a spatial dimension, with the profit of each spaza shop being influenced by the location of the other.	(O'Sullivan, 2009:11)	Spatial competition		Measureable criteria

Code	Source	Category	Theme	Relevance for empirical investigation
The spatial competition of the market is identified as monopolistic competition	(O'Sullivan, 2009:11)			
Article 24(2)(c) necessitates the inclusion of previously excluded informal and low-income settlements into the municipal Land Use Schemes (LUS) in order to introduce land use management and regulation in these areas. This implies that municipal LUSs should make provision for specific control measures regarding the development of economic activities, inter alia, spaza shops	Article 24(2)(c) of the Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA)	SPLUMA		General significance
These retail facilities are divided into four types of retail, being (1) formal (planned) centres, (2) specialist or focus centres, (3) informal (unplanned) centres and (4) rural retail developments.	(Prinsloo, 2016:5)		Spatial planning directives	General significance
This may also influence the hierarchical levels of retail facilities, with metropolitan areas having more hierarchical levels than rural, low-income settlements, mainly consisting of one or two levels	(Prinsloo, 2010:4)	Classification & Hierarchy of retail facilities		General significance
Therefore, the type and size of the settlements determine the size, type and locational	(Prinsloo, 2010:6)			General significance

Code	Source	Category	Theme	Relevance for empirical investigation
structure and distribution of retail facilities				
Therefore, it is important to determine the population threshold for services by determining the average household size, the age profile, the income levels and the employment profile of the residents in the settlement.	(CSIR, 2019:H13)	Guidelines for Human Settlement Planning and Design		General significance
In developing retail facilities, it is also important to provide an appropriate size of land in a suitable location, depending on the nature and scale of the service, and the population served.	(CSIR, 2019:F51)			General significance
The retail facilities should be located near a street or node that is already concentrated with economic activities, for instance, near mixed-use, or higher-density activities near public transport routes, while encouraging formal and informal retail activities in close proximity to one another.	(CSIR, 2019:F57)			General significance
Sidewalks accommodate surrounding activities, for example, spaza shops, and therefore pedestrians should be provided with safe and convenient sidewalk space to participate in these activities. These pedestrian sidewalks should be long, clearly	(CSIR, 2019:F46); (CSIR, 2019:F49)			General significance

Code	Source	Category	Theme	Relevance for empirical investigation
recognisable and well-maintained to improve the accessibility of the spaza shops.				

Source: Own Compilation (2022)

The themes summarised and identified as “measurable criteria” in Table 5-2, subsequently informed the quantitative statistical analysis of the spatial distribution of spaza shops within the selected urban and rural case studies, presented in the subsequent chapter.

CHAPTER 6: THE SPATIAL DISTRIBUTION OF SPAZA SHOPS IN RURAL VERSUS URBAN LOW-INCOME SETTLEMENTS

This chapter addresses Objective 4, as provided in Chapter 1:

- 4) determining the difference between the location and spatial distribution of spaza shops in rural versus urban low-income settlements.

Spaza shops are identified as the primary food distribution outlets in low-income settlements, as mentioned in previous chapters (c.f. section 3.3), remaining the most important source of food for the poor (Roos *et al.*, 2013:195). It is easier for residents of low-income settlements to purchase food and goods without travelling long distances to city centres (Mlambo & Ndebele, 2020:33). These spaza shop owners are entrepreneurs, providing employment opportunities, critical for economic development (Basardien *et al.*, 2018:38), as well as socio-economic development, especially in low-income settlements (Hare & Walwyn, 2019:1). Entrepreneurial and innovative activities are also promoted with spaza shops, generating labour and employment opportunities (Phalatsi, 2016:97). Therefore, it is evident that spaza shops play a crucial role in the national economy. Considering this, the directives mostly used by Planners merely recognise the importance of upgrading informal settlements, as well as the lack of guidance to initiate an upgrade; no specific guidelines are provided with a direct impact on spaza shops or any informal retail facilities (c.f. section 5.4). This establishes the primary point of departure for the empirical investigation.

Building on the literature study, the aim of this empirical investigation chapter is to firstly determine the difference between the location and spatial distribution of spaza shops in urban versus rural low-income settlements. After this, the empirical research results of urban and rural low-income settlements are compared and contextualised within the current directives for the spatial distribution of economic activities in South-Africa. In achieving this, the chapter firstly refers to and explains the methodology used to conduct the empirical investigation in detail (section 6.1). In providing a basis for the empirical investigation, the background and motivation for the use of the specific case studies are provided (section 6.2), followed by a review of the current directives mainly used by Planners (section 6.3). Subsequently, the spatial distribution of the spaza shops in the case study areas is provided (section 6.4) in order to map the status quo of the spaza shops in these case study areas (section 6.5). Upon completion of this step, the current spheres of influence for all spaza shops in the case study areas are also mapped (section 6.6). The optimal sphere of influence for the spaza shops in the different case study areas are then calculated (section 6.7), followed by the mapping of these calculated optimal spheres of influence (section

6.8). Finally, the results of the calculated spheres of influence are compared with the current guidelines, as well as the current spheres of influence of the spaza shops (section 6.9). This purposes to provide an in-depth analysis of the spatial distribution of spaza shops in urban versus rural low-income settlements.

6.1 Detailed empirical methodology

The qualitative and quantitative nature of the data in this research study validates the employment of a sequential exploratory methodology. This is further motivated by the notion that the quantitative data (empirical investigation) is informed and initiated by the qualitative data (literature study) (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2008; Onwuegbuzie *et al.*, 2010). Consequently, in the empirical investigation the results of the thematic synthesis in the literature study are used to inform the collection of quantitative data in the empirical research with the aim of exploring the findings of the literature study (Byrne & Humble, 2007:3). Therefore, the theoretical matrix (c.f. section 5.5, Table 5-2) generated during the qualitative research phase (literature study) was used to inform the selection of quantitative data for the empirical investigation. Categories and themes identified as “measurable criteria” in the theoretical matrix, were subsequently quantified during the empirical investigation, to provide information on the spatial distribution of spaza shops in urban and rural low-income case study areas. The quantitative data used for this empirical investigation comprise mainly a statistical analysis (Wetcher-Hendricks, 2011:3-31; Cramer, 2003:5) of the selected themes (c.f. section 5.5, measurable criteria in Table 5-2) as applied within purposefully selected urban and rural case studies (MacCallum *et al.*, 2019:49; Yin, 2018:xx-xxi), supported through geo-spatial imagery (MacCallum *et al.*, 2019:67) and mapping (Schiewe, 2015:13) analysis.

The purposefully selected case studies are used to provide a practical perspective on the selected themes from the literature, that may occur in a specific urban or rural setting (MacCallum *et al.*, 2019: 49; Yin, 2018:xx-xxi). In accumulating quantitative data for the case studies, statistical data was obtained from Quantec Easydata, supplemented by observations, as well as a desktop study (Nayak & Singh, 2015:136). In gathering data for the empirical investigation, the different case study areas were firstly analysed through physical site visits and by driving through the respective low-income settlements whilst mapping the location of every spaza shop in the specific location. In remotely located case study areas, key informants provided information on the location of the spaza shops in the specific area. Further to this, geo-spatial imagery were used to collect web-based geo-spatial data in a raw format, allowing for an analysis of spatial changes (MacCallum *et al.*, 2019:67) in the location of spaza shops, in both urban and rural low-income case studies.

The case studies selected for the purpose of this empirical investigation, comprise a selection of both urban and rural low-income areas including Jan Kempdorp, Ikageng, Kanana, Agisanang, Misgund and Ganyesa. It may be assumed, by using the information and criteria provided in the literature study, that the urban low-income areas include Jan Kempdorp, Ikageng and Kanana, while the rural low-income settlements include Agisanang, Misgund and Ganyesa. A comparative analysis of these case studies are employed in this investigation, comparing the research results between urban and rural low-income settlements. In enabling the final comparative analysis as captured in section 6.9, the case study analysis comprised four steps (sections 6.4-6.8) for both the urban and rural case study areas entailing: 1) GIS mapping of existing spaza shops (status quo), 2) mapping the current spheres of influence for all spaza shops, 3) calculating the optimal sphere of influence for the spaza shops and finally, 4) the mapping of these calculated optimal spheres of influence.

Firstly, the quantitative data abstracted from the urban and rural case studies were mapped by using GIS software, ensuring a visual cartographic representation of the phenomena found in the case studies, conceptualising the spatial reality in the case studies (Schiewe, 2015:13). The existing guidelines for the spatial distribution of spaza shops, as determined in the literature study (c.f. section 5.2), entailing a sphere of influence radius of respectively 100m and 300m, as well as a 5-minute walking time. Following this, a statistical analysis of the spheres of influence were employed, consequently providing a basis for evaluating the mapped data (Wetcher-Hendricks, 2011:3). The optimal sphere of influence for each case study was subsequently calculated by adapting an existing mathematical formula (c.f. section 6.7). In calculating the optimal sphere of influence for spaza shops in each case study area, three adjacent spaza shops were chosen in each case study area. The average distance between these spaza shops was then determined, together with the average number of households located within the radius between the spaza shops. This informed the determination of the optimal sphere of influence for each case study area. Finally, the statistics of differentiated case study data were compared and merged (Wetcher-Hendricks, 2011:21). This provides a visual representation of the differences or similarities between the data gathered from the directives analysed in the literature study and the data gathered and analysed in the empirical investigation.

6.2 Background to and rationale for the selection of case studies

With the emphasis on urban versus rural case study areas, the background to and rationale for the selection of, respectively, the urban (section 6.2.1) and rural (section 6.2.2) case study areas are explored in the subsequent sections.

6.2.1 Urban case study areas

For the urban case study areas, Jan Kempdorp, Kanana and Ikageng are investigated, with their urban characteristics motivated by the information in the literature study (c.f. section 3.1). Although the classification between urban and rural low-income settlements are vague, for the purposes of this study, information from the literature study (section 3.1) is referenced, indicating that an urban low-income settlement is assumed to be settlements displaying urban characteristics, located on the periphery of the urban fringe (Atkinson, 2014:5). Information in these case study areas was either collected through a key-informant providing information, a desk-top study, or the researcher driving through the area and mapping the data. Table 6-1 provides the method and the motivation for each urban case study area.

Table 6-1: Urban Case study Areas

Case study area	Method	Rationale or relevance	Average projected monthly household income (2021) ¹
Jan Kempdorp	Informant providing information	The study area is a large low-income settlement, surrounded by agricultural activities, with various facilities and resources, partaking in both informal and formal economic activities.	R 5 856.99
Kanana	Desktop study	Kanana is a low-income settlement on the periphery of Cape Town, and many of the residents, therefore, have access to various economic activities.	R 4 326.38
Ikageng	Drive-through and mapping	Ikageng is a sizeable low-income settlement on the periphery of Potchefstroom, with various facilities, including informal and formal economic activities. It is also a high-density settlement.	R 29 936.85

Source: Own Compilation (2022)

Table 6-1 indicates that the urban low-income settlements display corresponding characteristics but also some criteria that may vastly differ, for instance the average monthly household income.

¹ Quantec. 2022. EasyData. Subplace & Household Income, 1996, 2001 & 2011. <https://www.quantec.co.za/> Date of access: 7 August 2022. [Database].

In Figure 6-1 the location of the urban case study areas is illustrated within the context of South Africa, indicating the location of each urban low-income settlement used in this study.

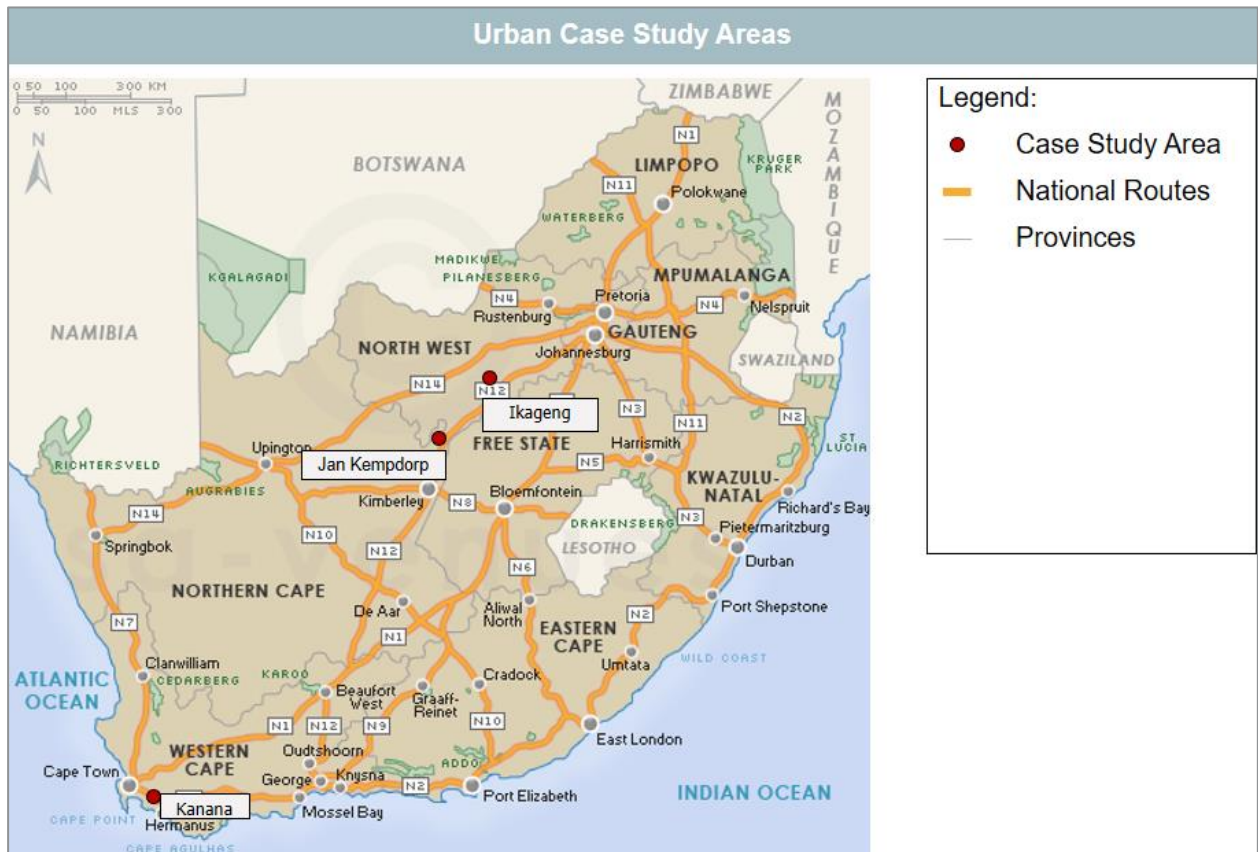


Figure 6-1: Location of Urban Case Study Areas

Source: Own Compilation (2022)

From Figure 6-1, it is evident that the case study areas are located in three different provinces, allowing a broader indication of the characteristics of urban low-income settlements, while not focusing on the economic context of merely one province. Considering this, the socio-economic criteria (c.f. Table 5-2) of each case study area may differ.

6.2.1.1 Urban socio-economic criteria

In order to contextualise the case study areas in ensuring a proper foundation for holistic analysis and an enhanced understanding of the case study areas, it is imperative to analyse the socio-economic criteria of the case study areas, as identified in the theoretical matrix (c.f. Table 5-2). However, it is important to note the inaccuracy in the census data, with an estimated undercount of 10.7%, 17% and 14.6% for the censuses of 1996, 2001 and 2011, respectively (Gumbo & Odimegwu, 2016:2). However, the population information is still more accurate than the census data that were captured during the Apartheid years, due to low-income areas merely being counted by means of estimates from aerial photos as it was considered dangerous to physically visit these settlements (Cronje & Budlender, 2004:68). The population census is,

nonetheless, the only census conducted in South Africa, and was therefore used for the purpose of this study by applying growth rates and population projections, where necessary, to obtain more recent data.

In terms of the measurable socio-economic criteria for the urban low-income settlement case study areas, it is important to examine the age and gender profile. As illustrated in Figure 6-2, the census data of 2011 was used in this regard.



Figure 6-2: Urban Age and Gender Population Profile (2011 Census Data)

Source: Own Compilation using Quantec Easydata (2022)

As indicated in Figure 6-2, the urban population for Kanana, Jan Kempdorp and Ikageng is mainly between the ages of 15-34 and thereafter between the ages of 35-64, indicating that the majority of the population may be characterised as the working-age population. It is also illustrated that the gender profile is well-balanced in all three urban case study areas.

Due to the 2011 Census data being outdated, the total population numbers in the urban case study areas were projected to determine the estimated population for 2021. The total population for Jan Kempdorp, Ikageng and Kanana (Main Places) in 2021 is based on the 1996, 2001 and

2011 census data, obtained from Quantec Easydata. Historical census population data were extrapolated for each area employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each case study area respectively in order to obtain high, medium and low growth probability scenarios. The 15-year average population growth rate results of respectively 3.7%, 2.7% and 3.9% for Jan Kempdorp, Ikageng and Kanana inform the projected total population for the urban case study areas in 2021. This is illustrated in Figure 6-3.

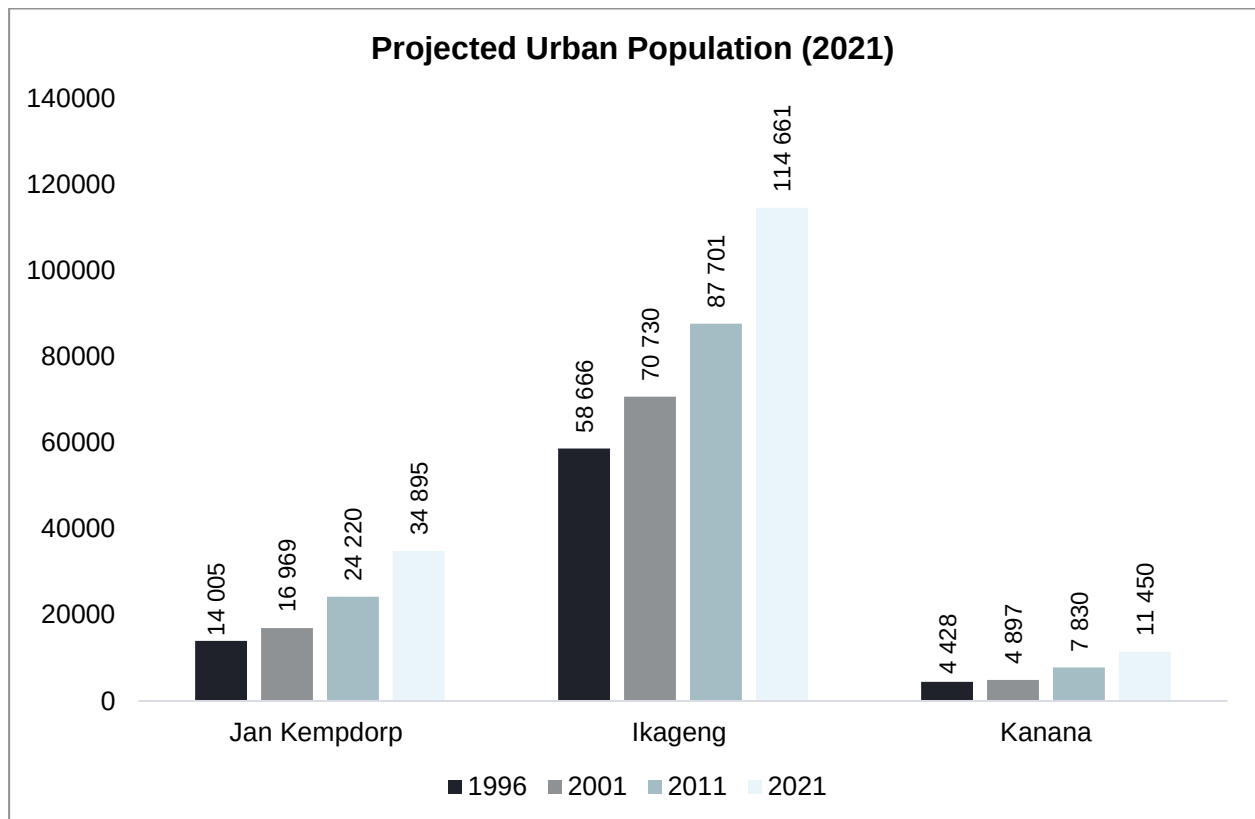


Figure 6-3: Projected Urban Population (2021)

Source: Own Compilation using Quantec Easydata (2022)

From Figure 6-3, it is evident that Ikageng consists of the highest population with the highest projected population growth over a 15-year period. In contrast to this, Kanana reflects the lowest population, with the lowest projected population growth over a 15-year period.

Correspondingly, the number of households was also projected in order to determine the estimated number of households for 2021. The total number of households for Jan Kempdorp, Ikageng and Kanana (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical census household data were extrapolated for each main place, employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each main place respectively in order to obtain high, medium and low growth probability scenarios. The 15-year

average population growth rates results of respectively 5.3%, 5.2% and 4.5% for Jan Kempdorp, Ikageng and Kanana inform the total number of households for the urban case study areas in 2021. This is illustrated in Figure 6-4.

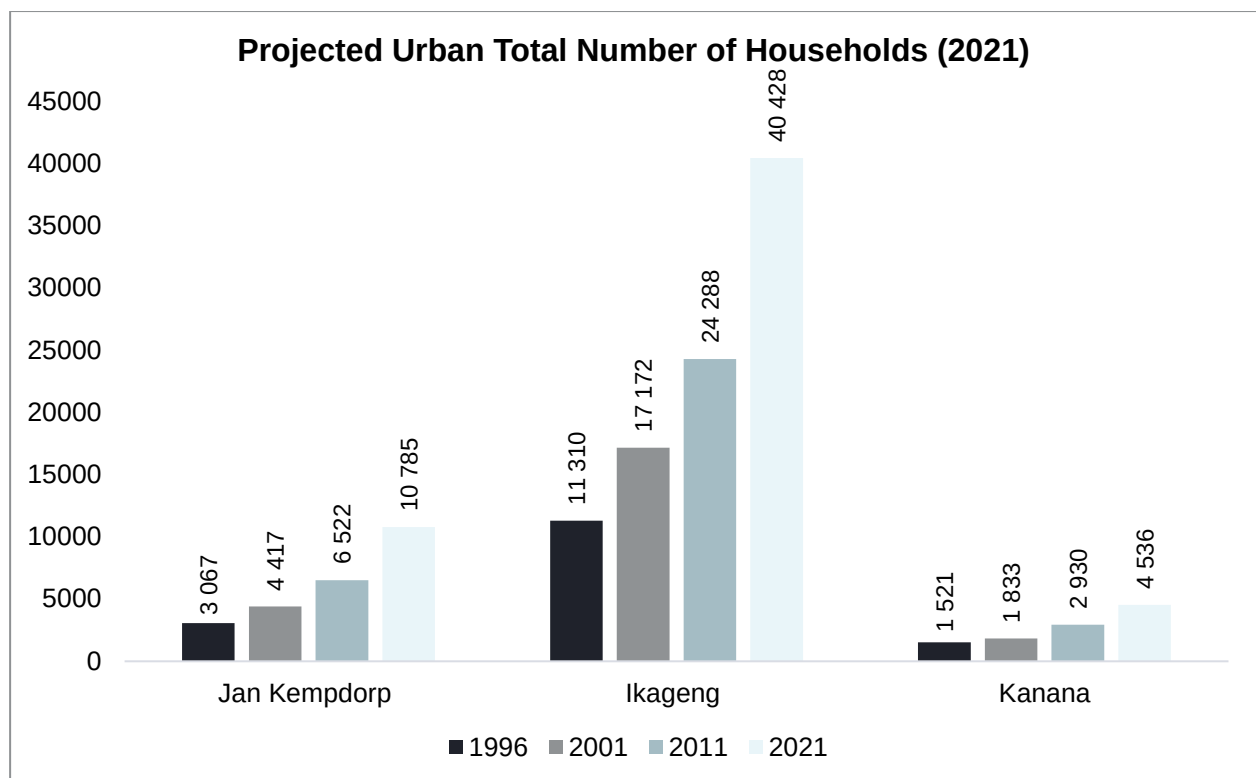


Figure 6-4: Projected Urban Total Number of Households (2021)

Source: Own Compilation using Quantec Easydata (2022)

Figure 6-4 corresponds with Figure 6-3, illustrating that Ikageng has the highest household growth over a 15-year period. Conversely, Kanana reflects the lowest number of households, with the lowest projected household growth over a 15-year period.

Further to the projected population and number of households for 2021, it is also important to consider the household density of the urban case study areas. The projected household density is calculated by dividing the projected number of households in the settlement by the total square kilometer surface comprised by the settlement area. This is illustrated in Figure 6-5.

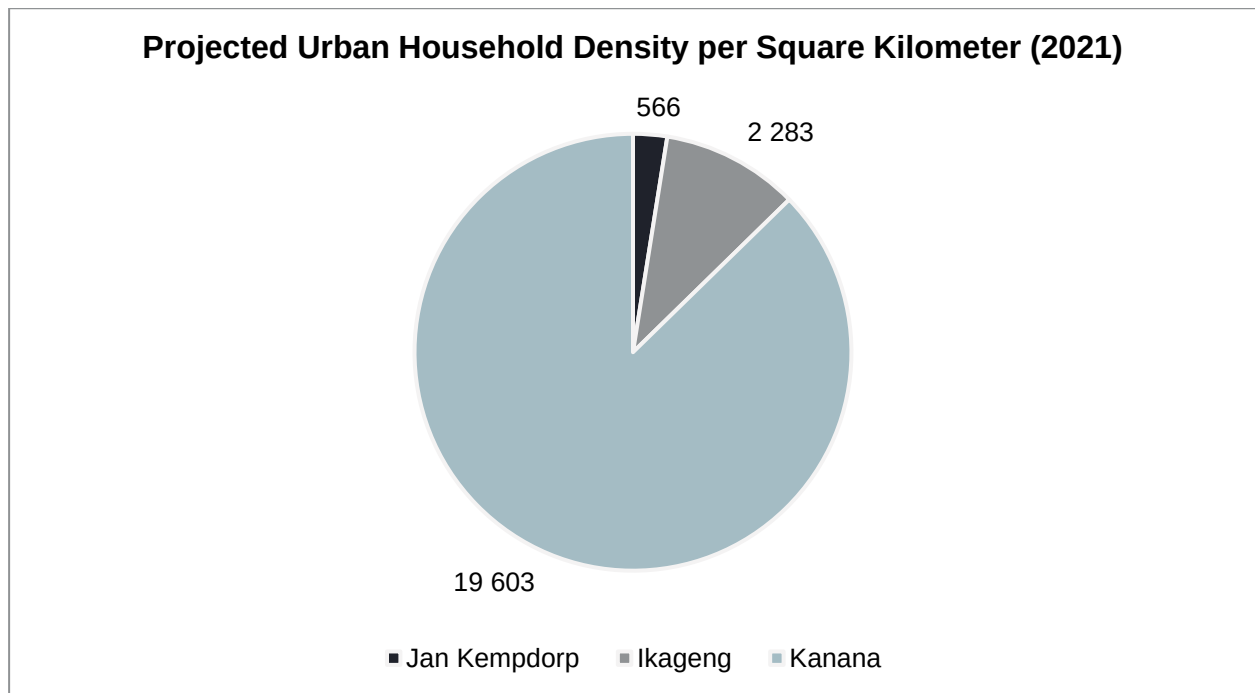


Figure 6-5: Projected Urban Household Density per Square Kilometer (2021)

Source: Own Compilation using Quantec Easydata (2022)

Considering Ikageng consists of the highest population, while Kanana comprises the lowest population, it is evident from Figure 6-5 that the population density in Kanana is substantially higher than the population density in Ikageng. Therefore, it may be assumed that Kanana is located on a significantly smaller settlement, with a considerable number of households in close proximity to one another, while Ikageng may be established on a larger area, consisting of a larger population, that live further away from one another. Jan Kempdorp comprises a fair number of households, while the residents do not live extremely close to one another.

In gaining an absolute understanding of the socio-economic criteria and characteristics of the urban case study areas, it is imperative to explore the average monthly household income for the case study areas. This is elucidated in Figure 6-6.

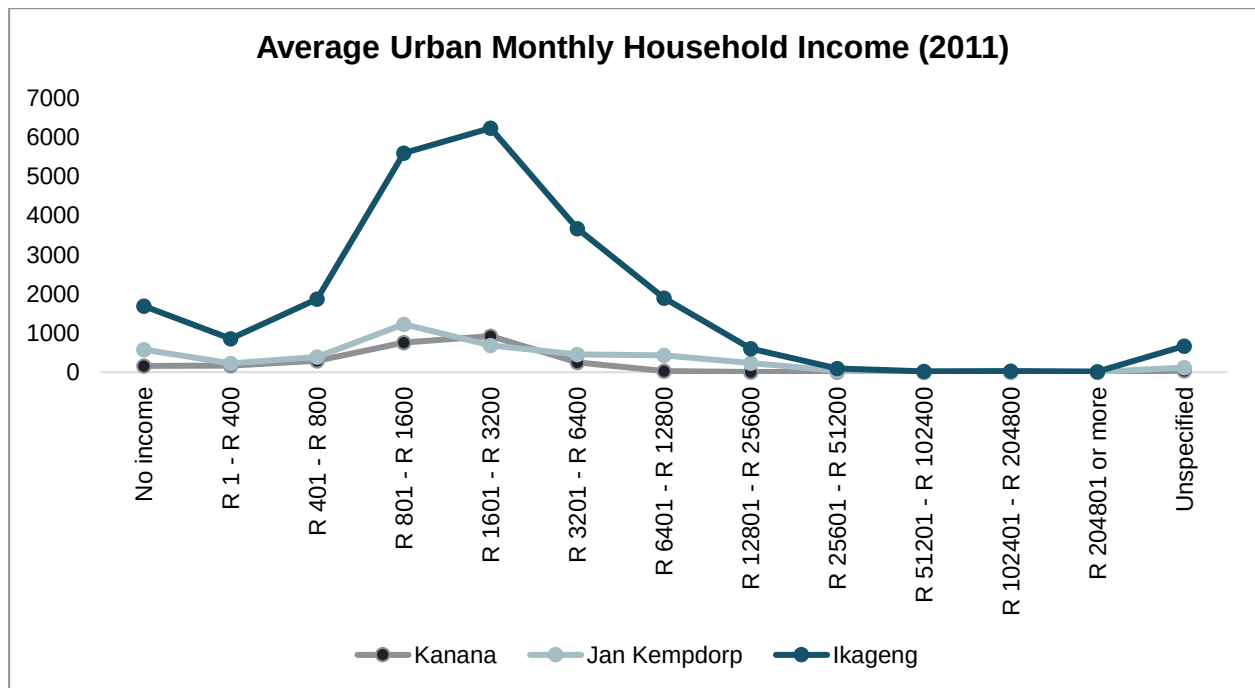


Figure 6-6: Average Urban Monthly Household Income (2011)

Source: Own Compilation using Quantec Easydata (2022)

Using the 2011 census data, it is evident from Figure 6-6 that the households of the urban low-income settlements earn an exceedingly low monthly income, while some do not have any source of monthly income. However, the average income for all three case study areas may be between R801-R3 200 per month. This is just above the minimum wage for 2011, with the minimum wage in 2011 being R2 084.52 a month (du Toit, 2022). However, the minimum wage is per person, while the Figure illustrates the monthly income per household. Therefore, it is considered an extremely low average income.

Due to the 2011 Census data being outdated, the monthly household income in the urban case study areas was projected to discover the possible monthly household income for 2021. The monthly household income for Jan Kempdorp, Ikageng and Kanana (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical monthly household income census data were extrapolated for each main place employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each main place respectively in order to obtain high, medium and low growth probability scenarios. The results of the 15-year average monthly household income growth rate of respectively 2.8%, 2.6% and 5.1% for Jan Kempdorp, Ikageng and Kanana inform the total monthly household income for the urban case study areas in 2021. This is illustrated in Figure 6-7.

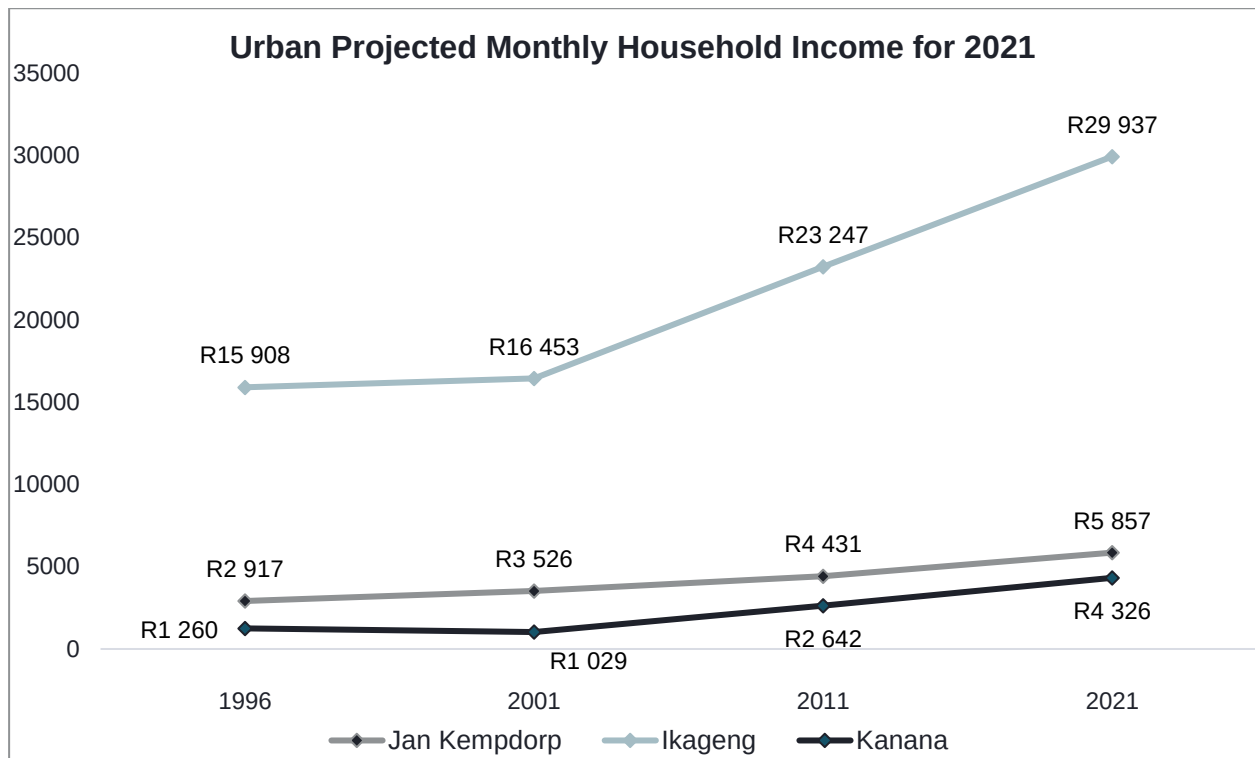


Figure 6-7: Urban Projected Monthly Household Income for 2021

Source: Own Compilation using Quantec Easydata (2022)

In Figure 6-7, it is indicated that there was a substantial spike in income from 2001 onwards for Ikageng, while Jan Kempdorp also experienced a slight growth since 2001. However, Kanana experienced a decline in monthly household income from 1996 to 2001, while the monthly household income started growing substantially from 2001 to 2021. This is clarified by the 15-year growth rate of 5.1%, that is above average considering the average urban 15-year growth rate of 2.7%. Therefore, Figure 6-8 illustrates the projected monthly household income for Kanana in 2021, using the average urban income growth rate.

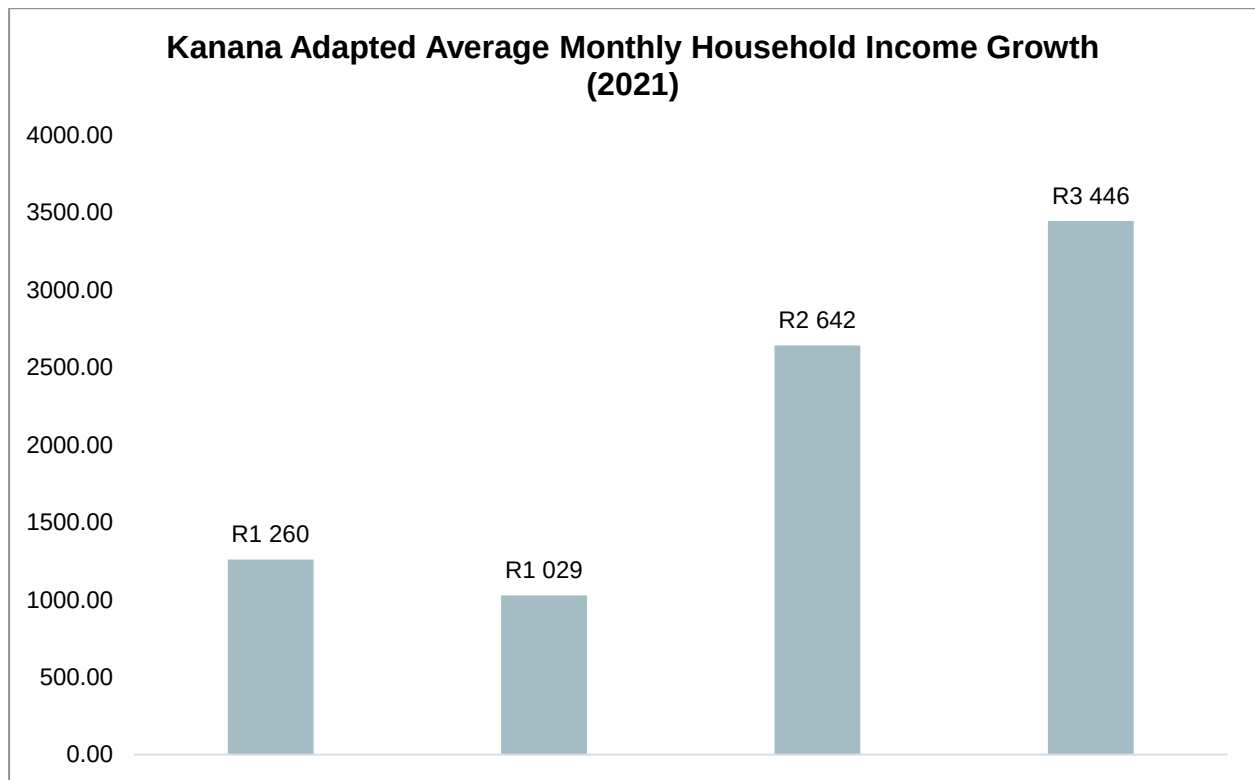


Figure 6-8: Kanana Adapted Average Monthly Household Income Growth (2021)

Source: Own Compilation using Quantec Easydata (2022)

Consequently , Figure 6-8 illustrates that the average 15-year monthly household income growth rate of 2.7% for Kanana is more realistic than a growth rate of 5.1%.

Figure 6-9 provides a visual summary of the socio-economic criteria for the urban case study areas, that will, ensuingly, be compared to those of the rural case study areas.

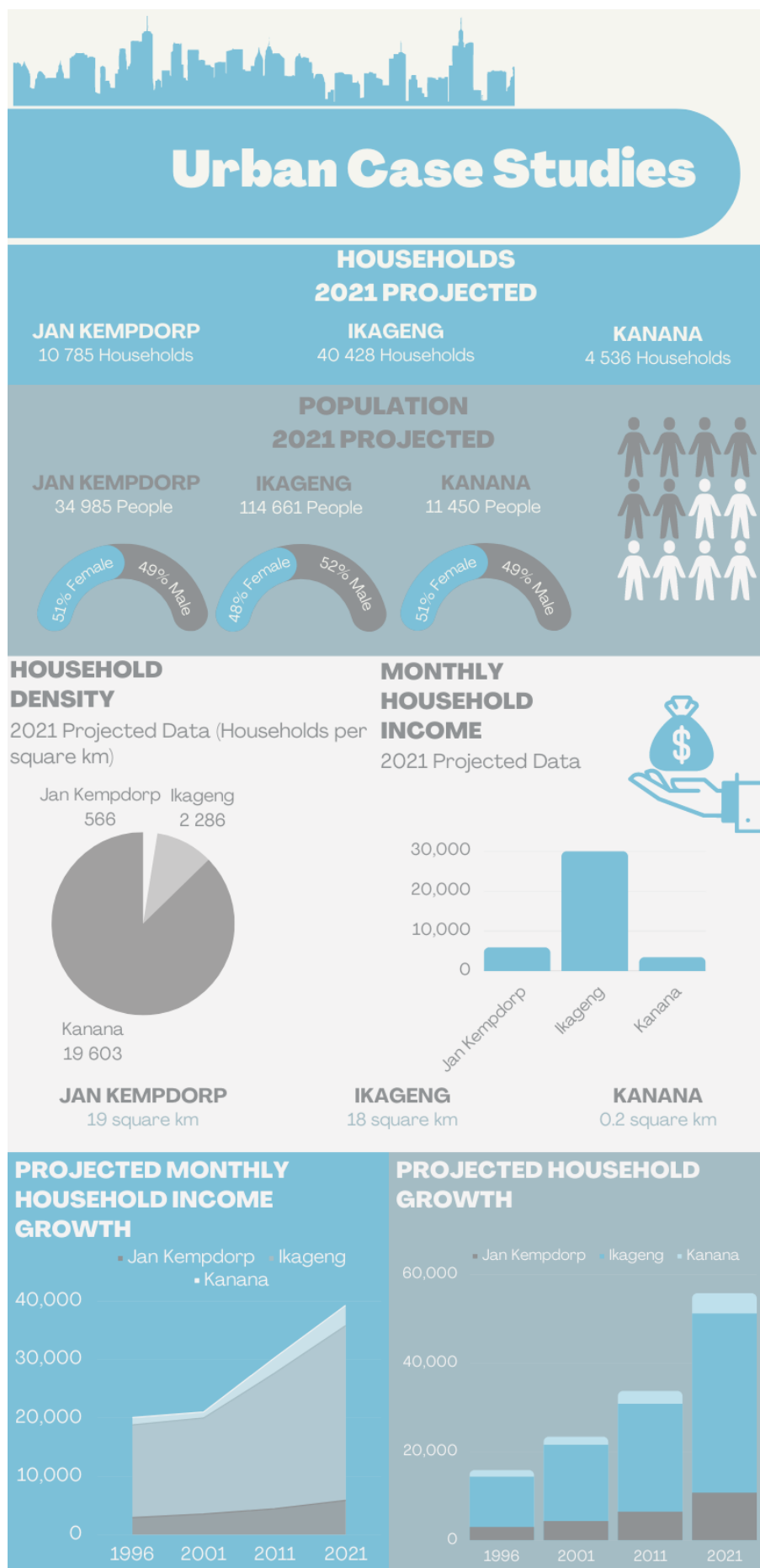


Figure 6-9: Summary of Socio-Economic Criteria for the Urban Case Study Areas

Source: Own Compilation using Quantec Easydata (2022)

6.2.2 Rural case study areas

For the rural case study areas, Agisanang, Misgund and Ganyesa are investigated, with their rural characteristics motivated by the information in the literature study (c.f. section 3.1). In the literature study (section 3.1), it is signified that rural low-income settlements are sparsely populated, dependent on natural resources due to no urban settlements being in close proximity, dispersed, with no economic centre and usually surrounded by villages and farms (Atkinson, 2014:5). Therefore, the selected case study areas are regarded as rural low-income settlements in this study. Data information for these case study areas was obtained through: 1) physical case study visits where the researcher mapped the data while driving through the area, 2) a key-informant providing information, or 3) a desk-top study. Table 6-2 provides the method and the motivation for each rural case study area.

Table 6-2: Rural Case study Areas

Case study area	Method	Rationale or relevance	Average projected monthly household income (2021) ²
Agisanang	Drive-through and mapping	Agisanang is a small village located near Sannieshof, a small rural low-income settlement with no city centre.	R 408.10
Misgund	Desktop study	Misgund is an extremely small village, with a low population-density, located in the Langkloof.	R 9 830.34
Ganyesa	Drive-through and mapping	Ganyesa is classified as a traditional (former homeland) area, surrounded by farmlands and villages, subsequently located far from any urban settlement	R 2 920.35

Source: Own Compilation (2022)

Table 6-2 exhibits that the rural low-income case study areas have corresponding characteristics but also some criteria that may vastly differ, for instance, the average monthly household income. Figure 6-10 illustrates the location of these rural low-income case study areas in a broader South African context, indicating the specific provincial location of each rural low-income case study area.

² Quantec. 2022. EasyData. Subplace & Household Income, 1996, 2001 & 2011. <https://www.quantec.co.za/> Date of access: 7 August 2022. [Database].

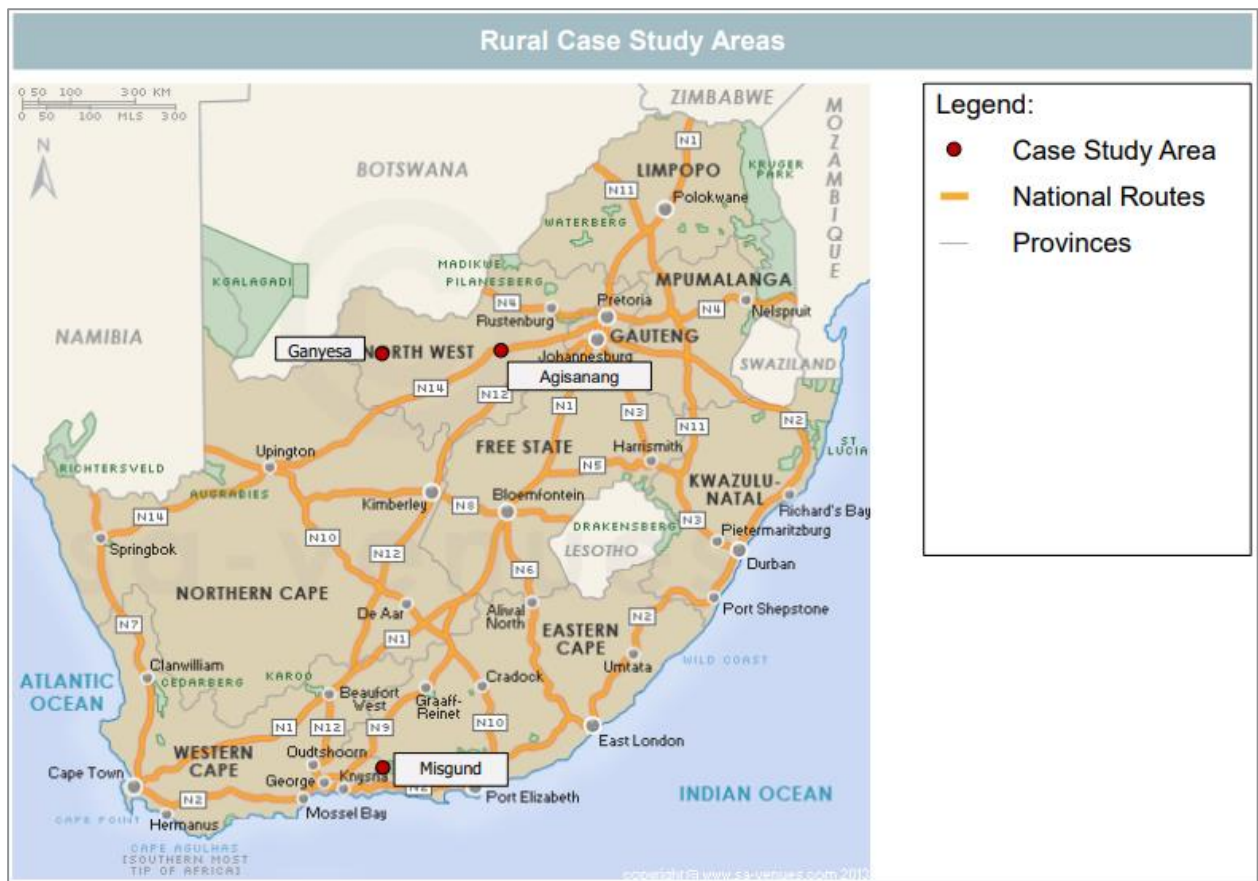


Figure 6-10: Location of Rural Case Study Areas

Source: Own Compilation (2022)

From Figure 6-10, it is evident that the case study areas are located in two different provinces, allowing a broader indication of the characteristics of rural low-income settlements while not focusing on the economic context of merely one province. Considering this, the socio-economic criteria (c.f. Table 5-2) of each case study area may differ.

6.2.2.1 Rural socio-economic criteria

In enabling a comparative analysis between the socio-economic criteria of the urban and rural case study areas, it is crucial to similarly examine the socio-economic criteria of the rural case study areas. Therefore, it is important to also analyse the age and gender profile of the rural case study areas. As illustrated in Figure 6-11, the census data of 2011 was used in this regard.



Figure 6-11: Rural Age and Gender Population Profile (2011 Census Data)

Source: Own Compilation using Quantec Easydata (2022)

As depicted in Figure 6-11, the rural population for Agisanang, Misgund and Ganyesa is mostly between the ages of 15-34, and thereafter between the ages of 35-64, indicating that the majority of the population may be characterised as the working-age population. It is also evident that the gender-profile is well-balanced in all three rural case study areas, with Misgund being slightly more male-dominant, while female numbers marginally dominate Ganyesa and Agisanang.

Due to the 2011 Census data being outdated, the total population numbers in the rural case study areas were also projected to determine the estimated population for 2021. The total population for Agisanang, Misgund and Ganyesa (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical census population data were extrapolated for each case study area, employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each case study area respectively in order to obtain high, medium and low growth probability scenarios. The results of the 15-year average population growth rates of 0.8%, 42.7% and 2.5% for Agisanang, Misgund and Ganyesa, respectively, inform the total population for the rural case study areas in 2021. This is illustrated in Figure 6-12.

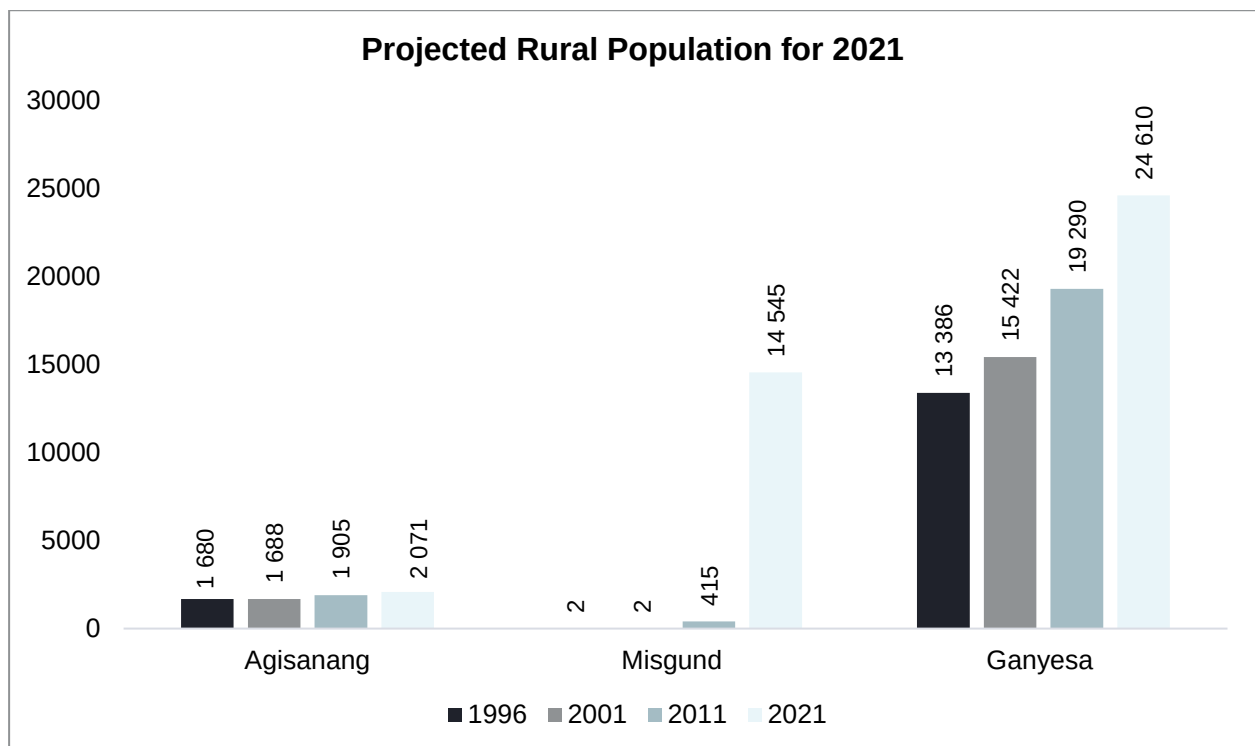


Figure 6-12: Projected Rural Population for 2021

Source: Own Compilation using Quantec Easydata (2022)

It is evident from Figure 6-12 that Ganyesa comprises the highest population, while Misgund reflects the lowest population. The population in Agisanang did not grow immensely. However, it is evident that Misgund experienced an extreme population growth between 2011 and 2021. This may be due to Misgund being a relatively newly established settlement, most probably being established just before 2011. This is revealed in the substantial 15-year growth rate of 42.7%, which is far above average considering the average rural 15-year growth rate of 1.7%. Therefore, the average population growth of Ganyesa and Agisanang was used to determine a more accurate estimated population growth for Misgund. This is illustrated in Figure 6-13.

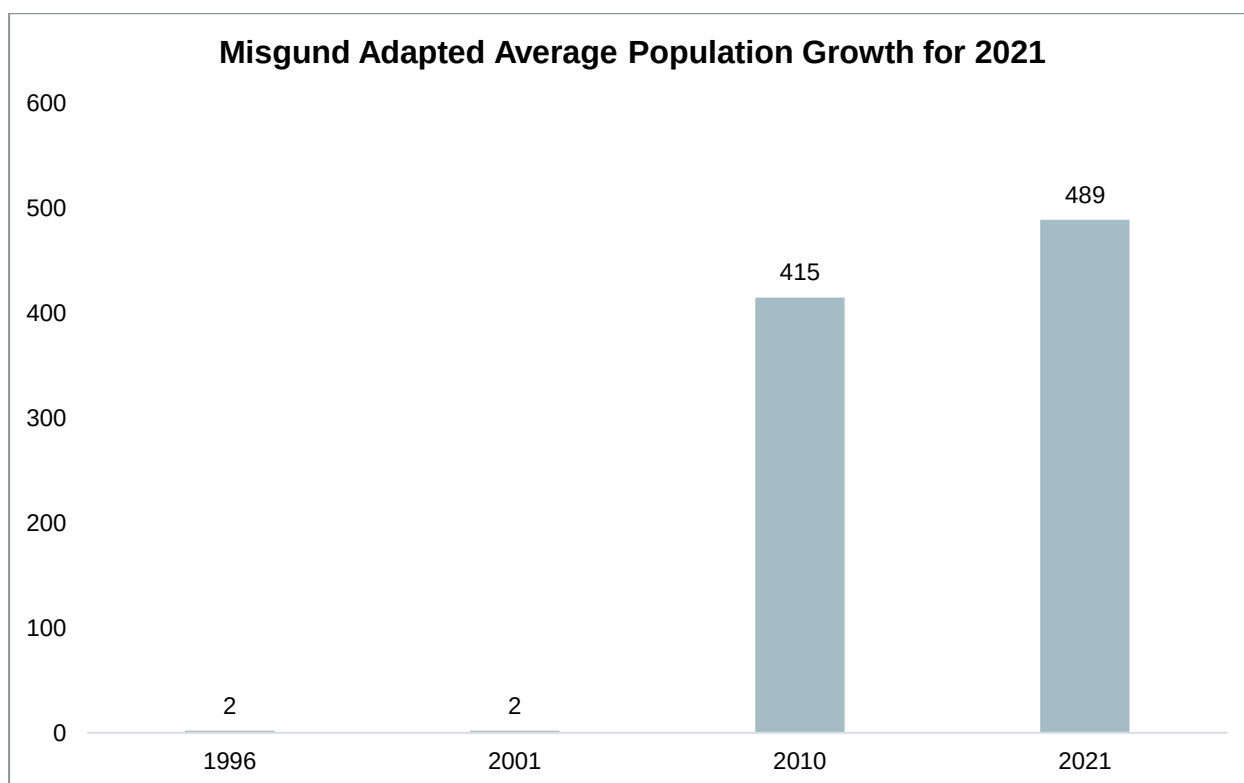


Figure 6-13: Misgund Adapted Average Population Growth for 2021

Source: Own Compilation using Quantec Easydata (2022)

Therefore, it may be concluded from Figure 6-13 that Misgund is still a sparsely populated rural settlement, with a significantly lower population growth rate.

Correspondingly, the total number of households was also projected in order to determine the estimated total number of households for 2021. The total number of households for Agisanang, Misgund and Ganyesa (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical census household data were extrapolated for each main place, employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each main place respectively in order to obtain high, medium and low growth probability scenarios. The results of the 15-year average population growth rates of respectively 2.5%, 38.5% and 3.8% for Agisanang, Misgund and Ganyesa inform the total number of projected households for the rural case study areas in 2021. This is illustrated in Figure 6-14.

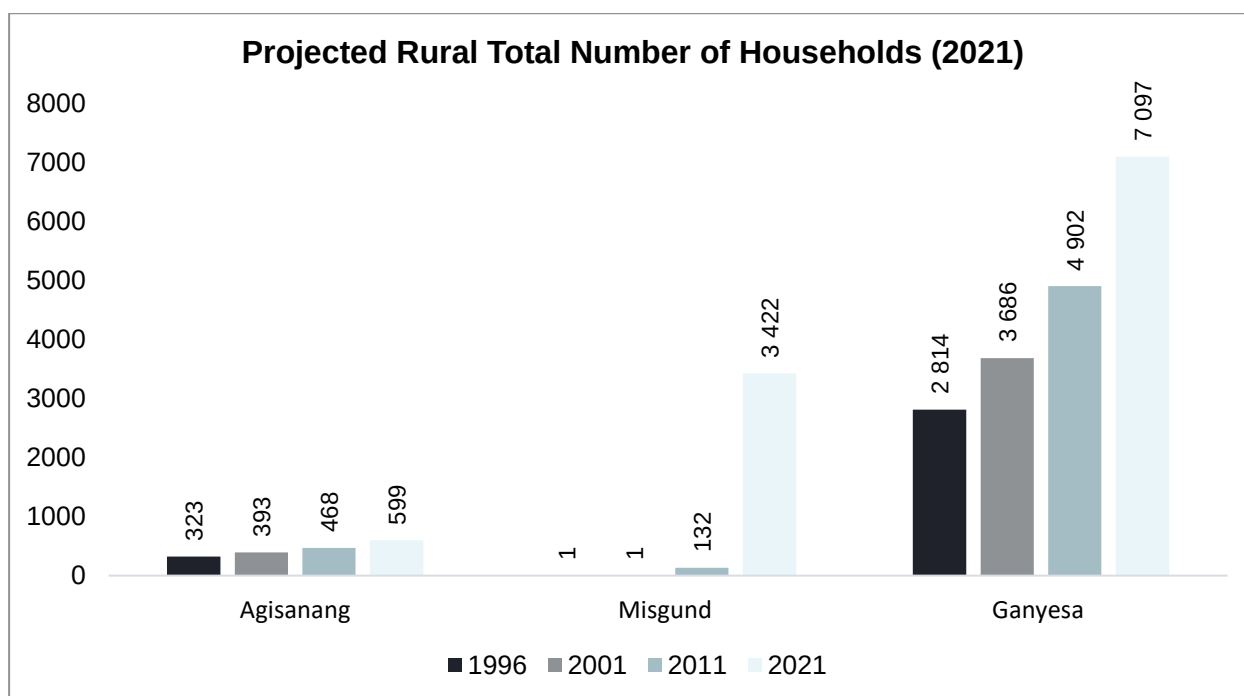


Figure 6-14: Projected Rural Total Number of Households (2021)

Source: Own Compilation using Quantec Easydata (2022)

Figure 6-15 corresponds with Figure 6-12, illustrating that Ganyesa has the highest number of households, while Agisanang reflects the lowest number of households. It is apparent that the population in Agisanang did not grow immensely. However, it is also obvious that Misgund experienced an extreme household growth between 2011 and 2021. This may be attributed to Misgund being a relatively newly established settlement, most probably being established just before 2011. This is explained by the substantial 15-year household growth rate of 38.5%, which is far above average considering the average rural 15-year household growth rate of 3.14%. Therefore, the average household growth rates of Ganyesa and Agisanang were used to determine a more accurately estimated household growth for Misgund. This is illustrated in Figure 6-15.

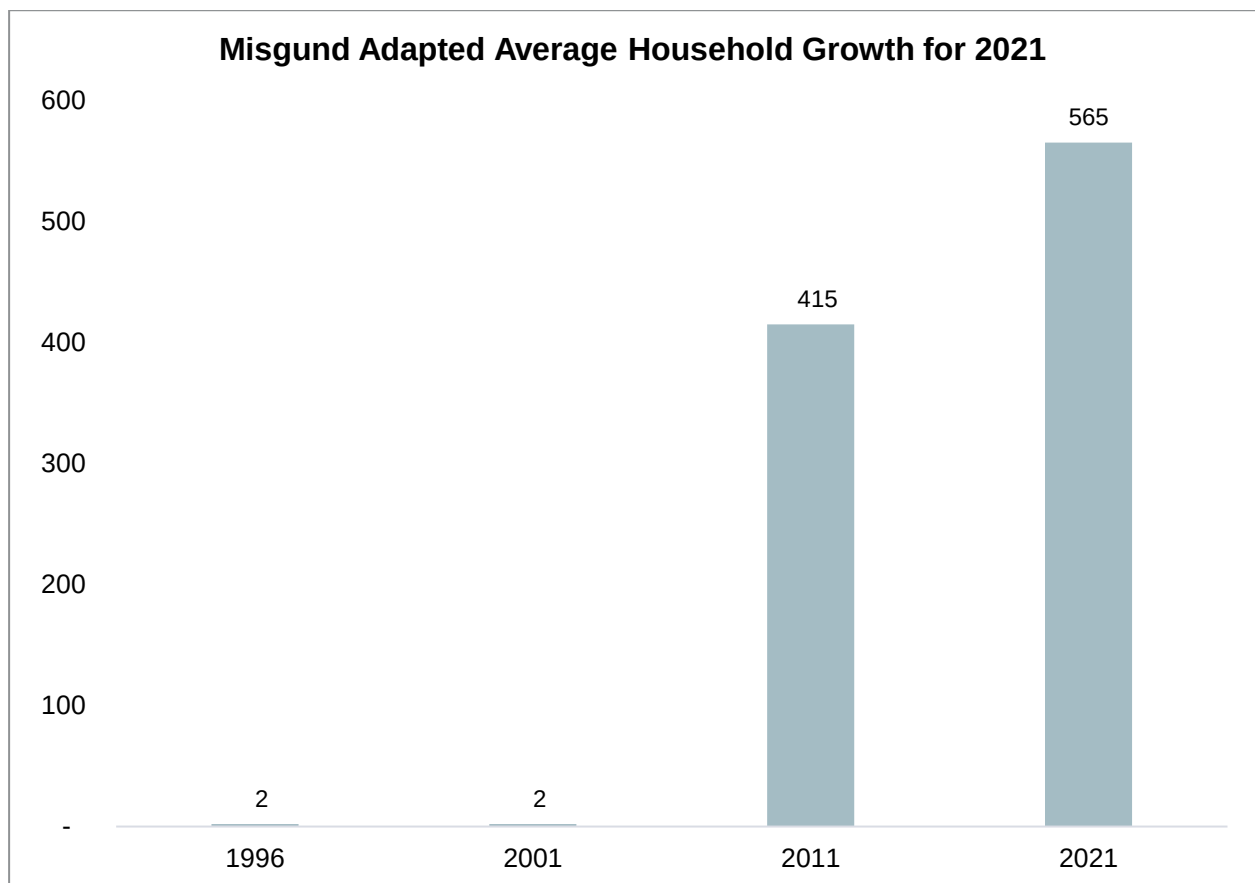


Figure 6-15: Misgund Adapted Average Household Growth for 2021

Source: Own Compilation using Quantec Easydata (2022)

It may, therefore, be concluded from Figure 6-15 that Misgund is still a sparsely populated rural settlement, with a significantly lower household growth rate.

Further to the projected population and number of households for 2021, it is also essential to consider the household density of the rural case study areas. The projected household density is calculated by dividing the projected number of households in the settlements with the total square kilometer surface comprised by the low-income settlement areas. This is illustrated in Figure 6-16.

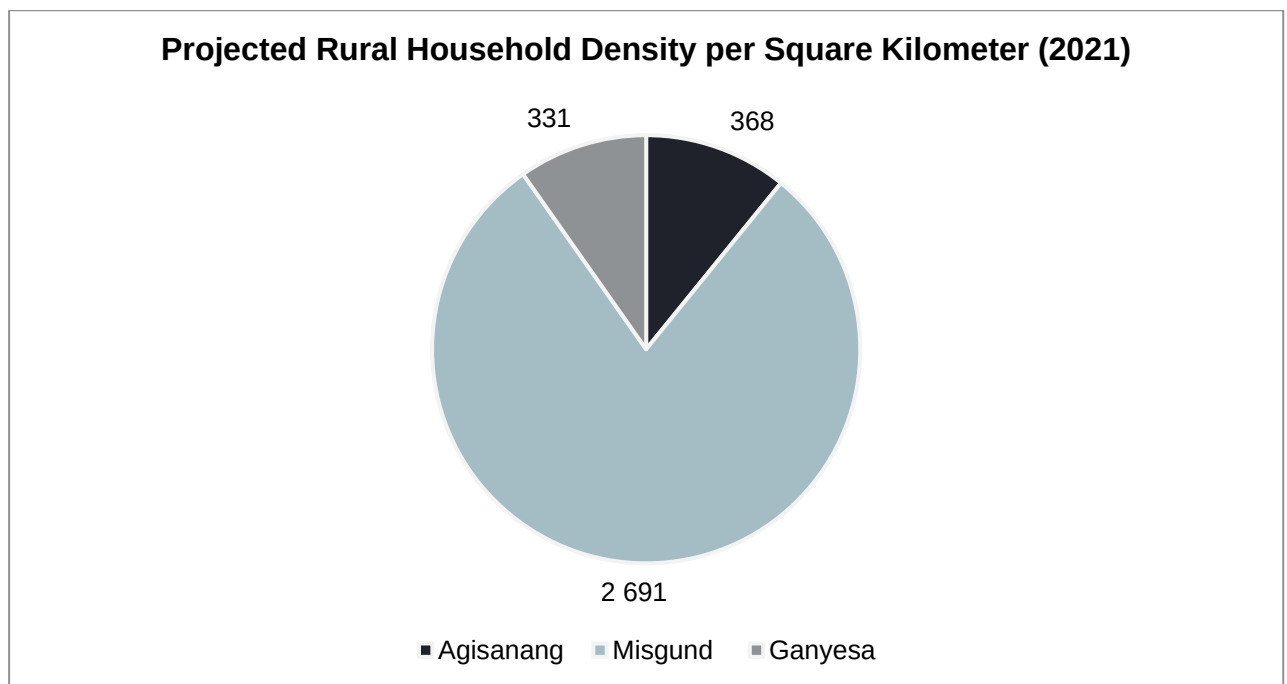


Figure 6-16: Projected Rural Household Density per Square Kilometer (2021)

Source: Own Compilation using Quantec Easydata (2022)

Considering Misgund comprises a lower population, it is evident in Figure 6-16 that the population density in Misgund is substantially higher than the population density in the other rural case study areas, especially Ganyesa, comprising a seemingly higher population. Therefore, it may be assumed that Misgund is situated in a significantly smaller area, with a considerable number of households located in close proximity to one another, while Ganyesa is established in a larger area, consisting of higher household numbers, that live further away from one another.

In gaining a holistic understanding of the socio-economic criteria of the rural case study areas, it is imperative to also explore the monthly household income for the case study areas. This is illustrated in Figure 6-17.

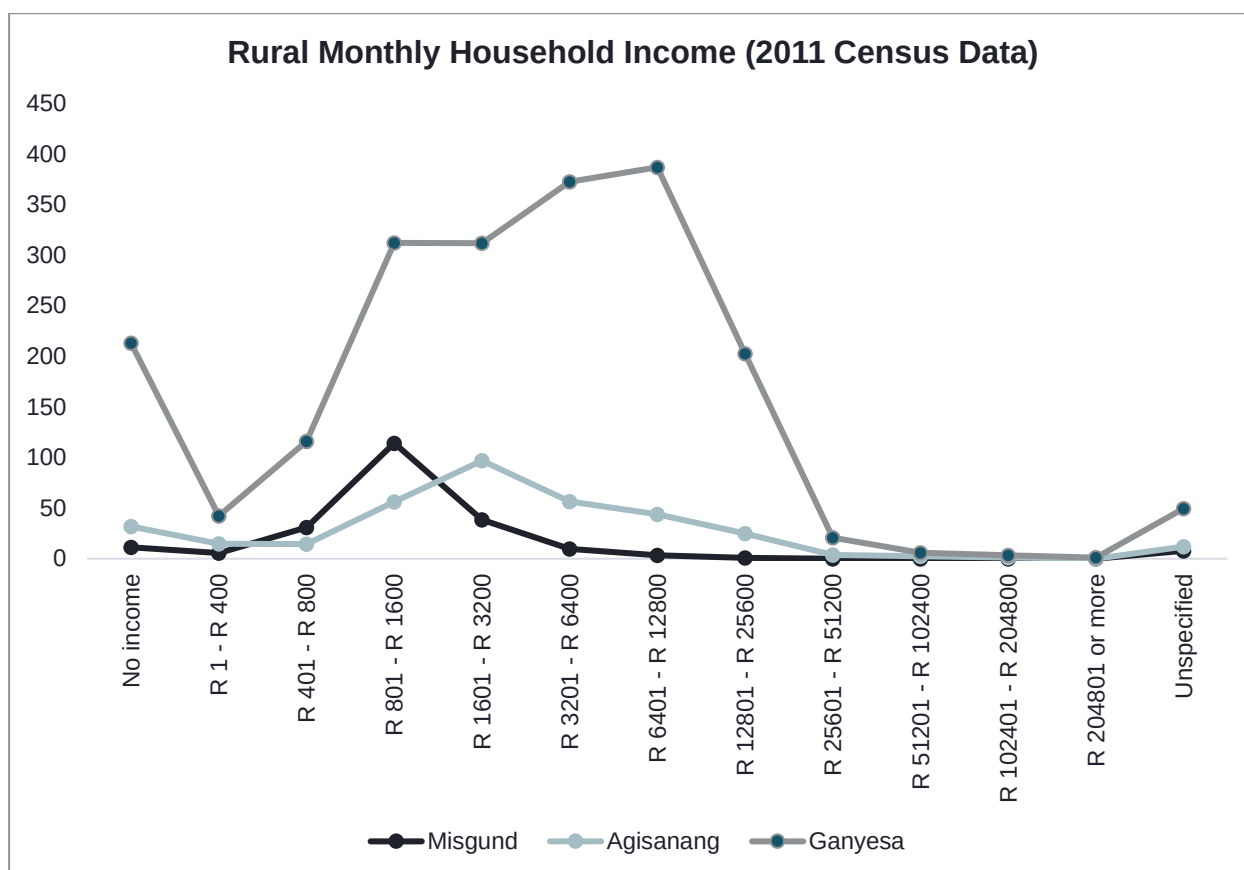


Figure 6-17: Rural Monthly Household Income (2011 Census Data)

Source: Own Compilation using Quantec Easydata, (2022)

As illustrated in Figure 6-17, using the 2011 census data, it is evident that the population earns a low monthly household income, while a large portion of the households does not have any monthly income. It is also apparent that Misgund has the lowest monthly household income (between R801 and R1 600 per month), while Agisanang has a slightly higher monthly household income (between R1 601 and R3 200 per month), and Ganyesa has the highest monthly household income (between R6 401 and R12 800 per month).

Therefore, only the residents of Misgund earned an average monthly household income below the minimum wage for 2011, while some residents of Agisanang earned less than the minimum wage, and most of the population in Ganyesa earned on average more than the minimum wage in 2011, with the minimum wage in 2011 being R2 084.52 a month (du Toit, 2022). However, it should be noted that the minimum wage is calculated per person, whilst the Figure illustrates the monthly income per household. Therefore, the monthly household income for the rural case study areas is considered to be extremely low.

Due to the 2011 Census data being outdated, the monthly household income data in the rural case study areas were also projected to determine the estimated monthly household income for 2021. The monthly household income for Agisanang, Misgund and Ganyesa (Main Places) in

2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical censuses' monthly household income data were extrapolated for each main place employing a logarithmic growth formula, based on a 5-year (1996-2001), 10-year (2001-2011) and 15-year (1996-2011) average growth rate, determined for each main place respectively in order to obtain high, medium and low growth probability scenarios. The 15-year average monthly household income growth rates results of 1.3%, 46.1% and 3.7% for Agisanang, Misgund and Ganyesa respectively inform the total monthly household income projections for the rural case study areas in 2021. This is illustrated in Figure 6-18.

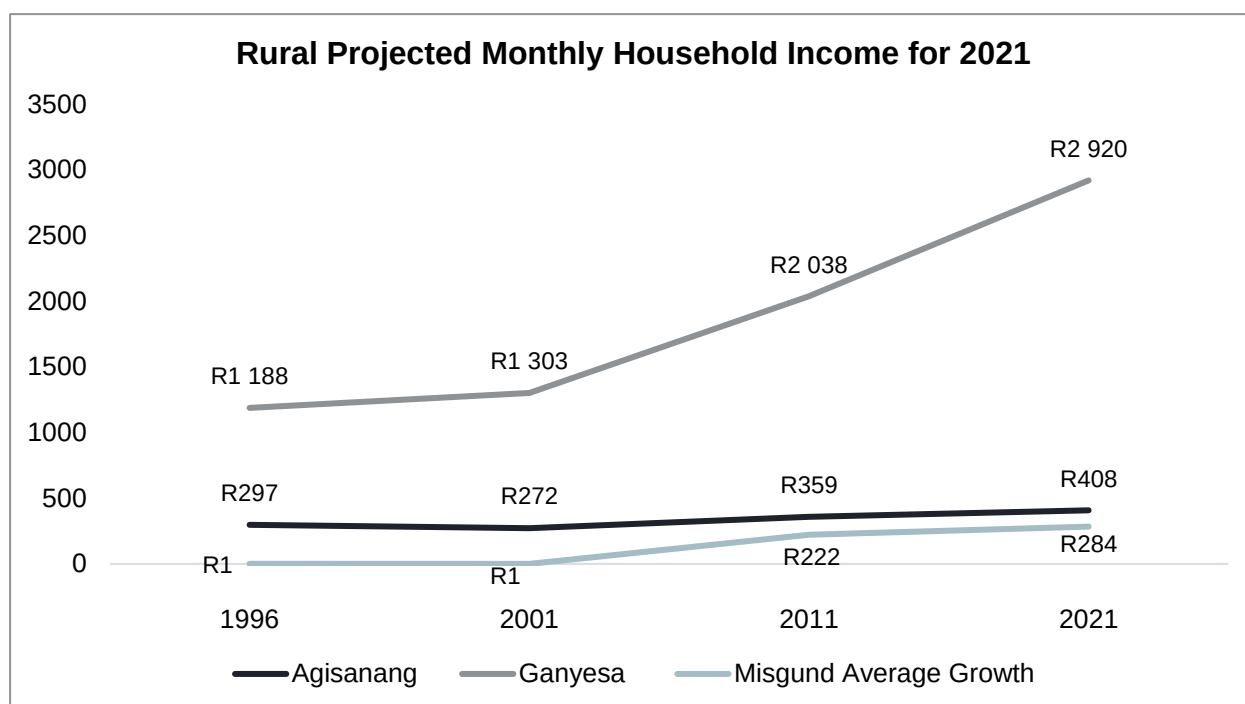


Figure 6-18: Rural Projected Monthly Household Income for 2021

Source: Own Compilation using Quantec Easydata (2022)

Figure 6-18 indicates that there was a considerable growth in income from 2001 onwards for Ganyesa, while Agisanang experienced a slight decline from 1996 to 2001 and a growth in household income since 2001. However, Misgund has experienced a significant growth in household income since 2011. This may again be attributed to Misgund being a relatively new rural settlement, only being established just before 2011. This is elucidated in the substantial 15-year growth rate of 46.1%, which is above average considering the average rural 15-year household income growth rate of 2.5%. Therefore, the average monthly household income growth rates of Ganyesa and Agisanang were used to determine a more accurate growth rate for Misgund. This is illustrated in Figure 6-19.

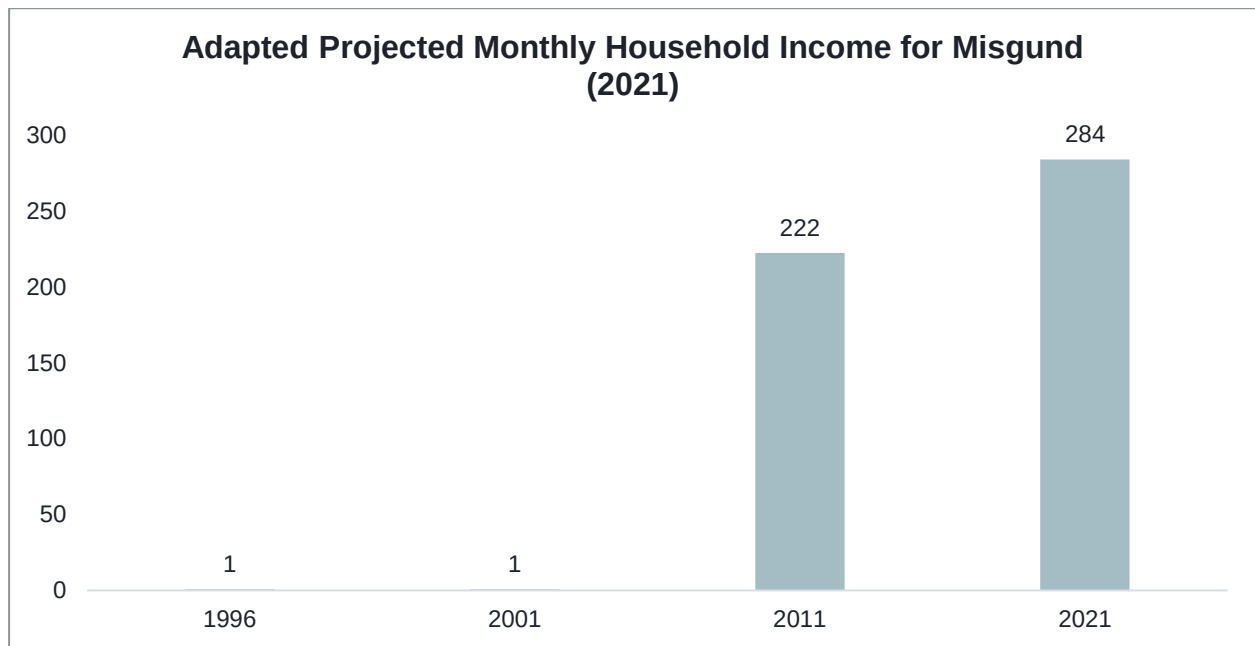


Figure 6-19: Adapted Projected Monthly Household Income for Misgund (2021)

Source: Own Compilation using Quantec Easydata (2022)

Therefore, from Figure 6-19 it is evident that Misgund may be a rural low-income settlement, displaying an average monthly household income that is in line with other, similar rural low-income settlements.

The sudden increase in average household income from 1996 to 2001 in some of the rural case study areas may also be due to the election of the African National Congress (ANC) in the Post-Apartheid Era. During this time, social grant programmes were implemented to ensure an improved quality of life for residents, by providing them with financial access to health services and education (Bhorat & Cassim, 2014). By 1998, 16 million residents received social grants, ultimately stabilising income levels and enabling residents of low-income settlements to actively pursue the search for job opportunities (Bhorat & Cassim, 2014). Another reason for the surge in income levels from 1996 to 2001 may be attributed to South Africa then entering a period where the sanctions against the country were lifted, and with a substantial and diversified manufacturing sector, South Africa experienced influxes of foreign investments (Vishnu, 2005:550). In conjunction with this, the real interest rate was increased, forcing the annual average inflation rate to decrease while ensuring a decrease in foreign debt in order to stabilise the economy after the lifting of the sanctions, by gaining access to foreign finance (Vishnu, 2005:551). Bhorat (2005:1-2) further articulates that the South African economy created approximately 1.6 million jobs between 1995 and 2002, implying employment and economic growth in the labour force, explaining the magnified growth in household income between 1996 and 2001.

Figure 6-20 provides a visual summary of the socio-economic criteria of the rural case study areas.

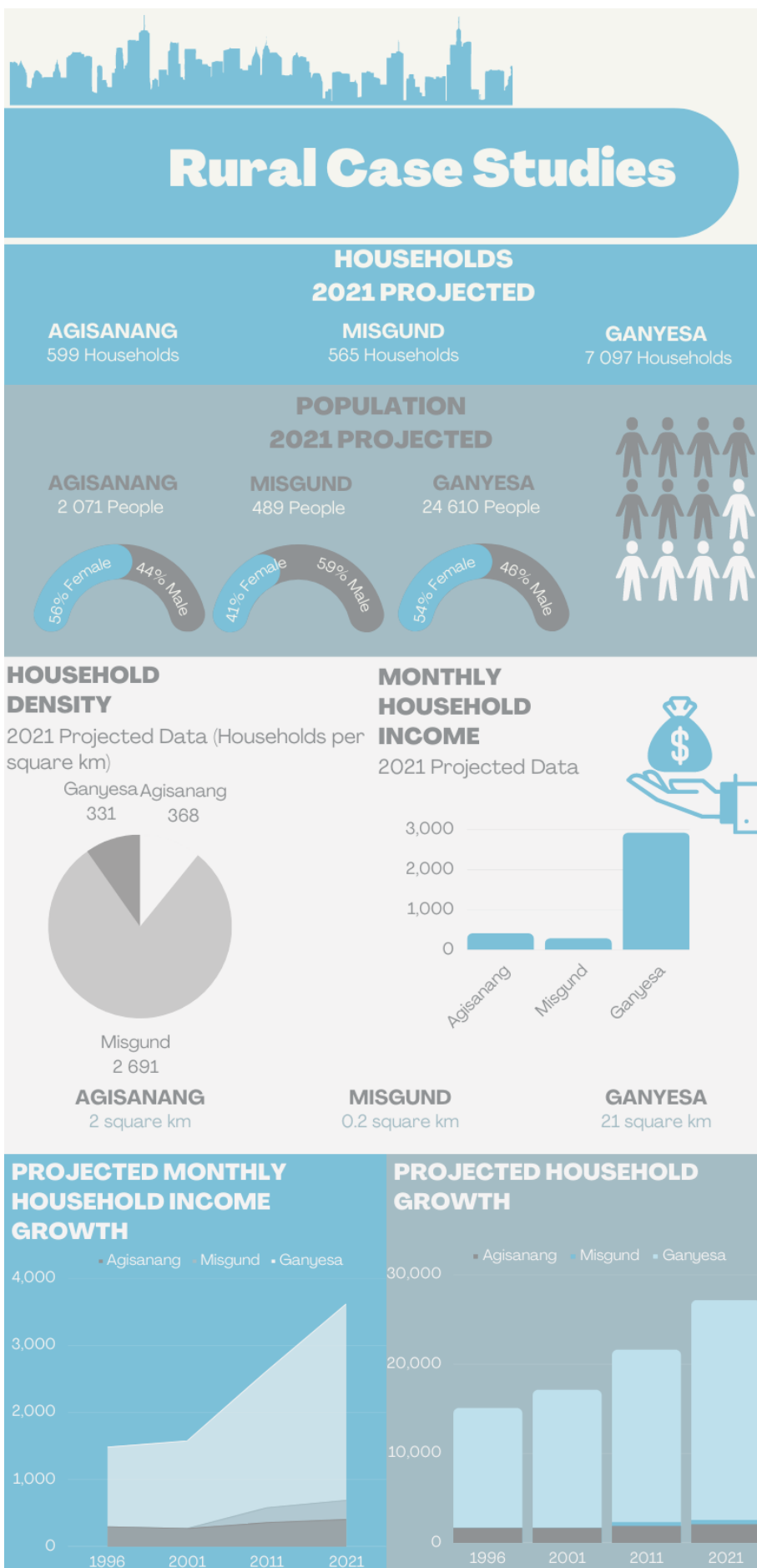


Figure 6-20: Summary of Socio-Economic Criteria for the Rural Case Study Areas

Source: Own Compilation using Quantec Easydata (2022)

6.3 Revisiting the current directives relating to spatial planning

In the literature study, three directives were examined in relation to spatial planning and specifically to guidelines regarding the spatial distribution and planning of spaza shops, as well as informal economies and low-income settlements (c.f. Chapter 5). In this chapter (c.f. Chapter 5), it was identified that spaza shops are classified as part of the unplanned (informal) or rural retail facilities. It was also recognised that spaza shops are considered part of the informal trade sector, subsequently indicating that it is part of the informal economy (Prinsloo, 2010:65).

Although the Human Settlement Planning and Design guidelines of the CSIR recognises the importance of upgrading informal settlements, as well as the lack of guidance to initiate an upgrade, no specific guidelines are provided directly relating to spaza shops or informal retail facilities. However, guidelines for retail facilities, in general, and for the surrounding areas are provided. In the SPLUMA, informal / low-income settlements and the informal economy are merely mentioned a number of articles and, in general, the directive lacks detail regarding planning and management of the informal economy, spaza shops and low-income settlements.

Considering this, the document on the Classification and Hierarchy of Retail Facilities in South Africa does, however, recognise the function and influence of spaza shops specifically. The function of spaza shops is indicated as mainly an express convenience retail facility for residents of the low-income settlements, and as additional income for the owner (Prinsloo, 2010:65). In this document, Prinsloo (2016:49), suggests that spaza shops are mainly sized between 10-50m², but never more than approximately 100m², catering for a population located no further than 100 to 300 meters away, depending on the level of surrounding competition. Therefore, spaza shops are indicated to have a sphere of influence of 100 meters, with the consumer usually having to walk for an estimated travel time of 5 minutes (Prinsloo, 2016:58). Comprising almost no location criteria, spaza shops may be found anywhere in a low-income urban or rural settlement, usually in a location of high visibility (Prinsloo, 2016:50), with each spaza shop serving an estimated 200-400 or more households (Prinsloo, 2016:58). The community being served may be categorised as the low or middle to low socio-economic group (Prinsloo, 2016:50), and therefore spaza shops usually serve households with an LSM level of 1-6 (Prinsloo, 2016:58). Spaza shops, consequently, do not comprise any specific market-related guidelines, and mainly originate as a result of entrepreneurship, to facilitate the absence of convenience retail facilities, or to gain income (Prinsloo, 2010:66). Table 6-3 encapsulates a review of the measurable criteria and guidelines for the establishment and spatial distribution of spaza shops as captured in the guidelines for the Classification and Hierarchy of Retail Facilities in South Africa. As alluded to earlier, this document is the only one of the current directives examined in Chapter 5, that stipulates specific guidelines in terms of the role, spatial distribution and influence of spaza shops in low-income settlements.

Table 6-3: Revisiting the Current Directives relating to spatial planning for spaza shops

Directive	Aim of the directive	Applicability to spaza shops and the informal economy	Comments
Classification and Hierarchy of Retail Facilities in South Africa	- Identifies different retail facilities in a hierarchy of supply markets segments. - Incorporating different socio-economic criteria to classify urban and metropolitan retail facilities.	- Hierarchy and influence of spaza shops mentioned and explained. - Spaza shops classified as: - unplanned and/or rural retail facilities - an express convenience retail facility - with a sphere of influence of 100-300m - provide households with an LSM level of 1-6 - mainly walking to the retail facility.	- Provide detailed socio-economic criteria for establishment of spaza shops. - Criteria may be outdated.

Source: Own Compilation (2022)

Therefore, it may be concluded from Table 6-3 that the function and influence of spaza shops are mainly apparent in the guidelines for the Classification and Hierarchy of Retail Facilities in South Africa. Spaza shops are classified as an express convenience retail facility in unplanned (informal) or rural areas and have a sphere of influence ranging between 100-300m providing for surrounding households with an LSM level of 1-6 that mainly walk an average of 5-minutes to the retail facility.

6.4 Status quo of the spatial distribution of spaza shops in the case study areas

The following section includes a data analysis of the existing distribution of spaza shops in both the urban and rural case study areas. This data may be used to investigate the spheres of influence for the various case studies in the next step of the case study analysis.

6.4.1 Urban case study areas

Data was abstracted from the case studies by employing a mixture of methods including desktop studies, mapping and key informants in order to visualise the status quo of the distribution of spaza shops in the urban case study areas. This is illustrated in the following subsections (sections 6.4.1.1 to 6.4.1.3), analysing the spatial distribution of spaza shops in Jan Kempdorp, Ikageng and Kanana, respectively.

6.4.1.1 Jan Kempdorp

Jan Kempdorp is a small town in the Northern Cape, on the border of both the Free State and the North West Provinces (Phokwane Local Municipality, s.a.). According to the Phokwane Spatial Development Framework (2008), Hartswater and the rural areas surrounding Jan Kempdorp offer the most favourable employment rates (Phokwane Local Municipality, 2008:11) and the largest population in the local municipality (Phokwane Local Municipality, 2008:20). In the SDF (Phokwane Local Municipality, 2008:13) Jan Kempdorp is classified as a formal settlement as well as a secondary node in the agricultural belt of the local municipality, however, it should be noted that, despite this, Jan Kempdorp does not contain many higher-order functions and services (Phokwane Local Municipality, 2008:20). This is evident in the number of spaza shops apparent in Valspan, the low-income settlement in Jan Kempdorp. This is illustrated in Figure 6-21.

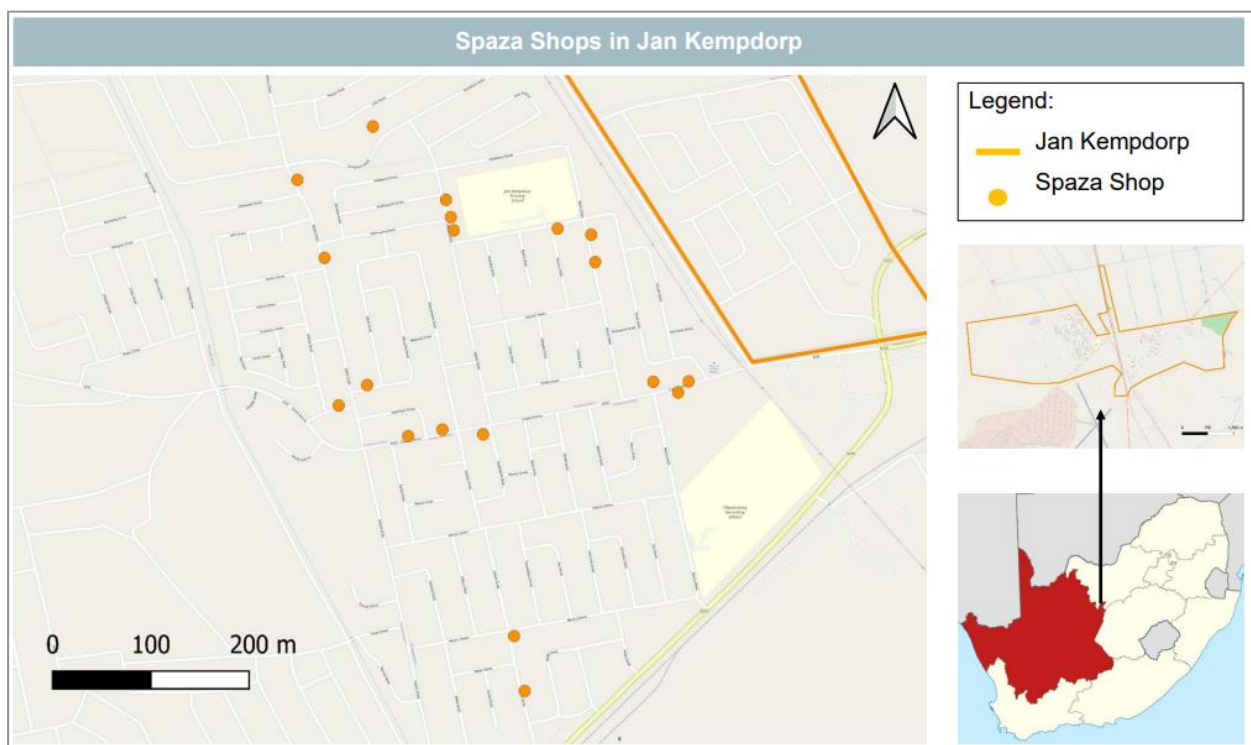


Figure 6-21: Current Spatial Distribution of Spaza Shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

From Figure 6-21, it is evident that the spaza shops in Jan Kempdorp are concentrated in only the western part of the settlement, the low-income area known as Valspan. Valspan is a suburb within Jan Kempdorp. However, it is noticeably evenly distributed in the suburb of Valspan, with the spaza shops serving a range of households. Therefore, it may be assumed that residents in the eastern parts of Jan Kempdorp either enjoy formal retail facilities, or the residents have to commute further to use the spaza shops' services. This is highlighted by the fact that the households in Jan Kempdorp are not densely compacted, and therefore a sizeable part of the population does not have easy access to spaza shops.

6.4.1.2 Ikageng

Ikageng is a low-income urban settlement located on the periphery of Potchefstroom in the district of Dr Kenneth Kaunda in the North West Province (Roadmap, s.a.A). Considering Ikageng to be a large settlement, it is restricted for future development due to the newly established Highveld National Park, Potch Industria and the N12 (Cilliers & Drewes, 2010:9). In Figure 6-22, the current spatial distribution of spaza shops in Ikageng is illustrated.

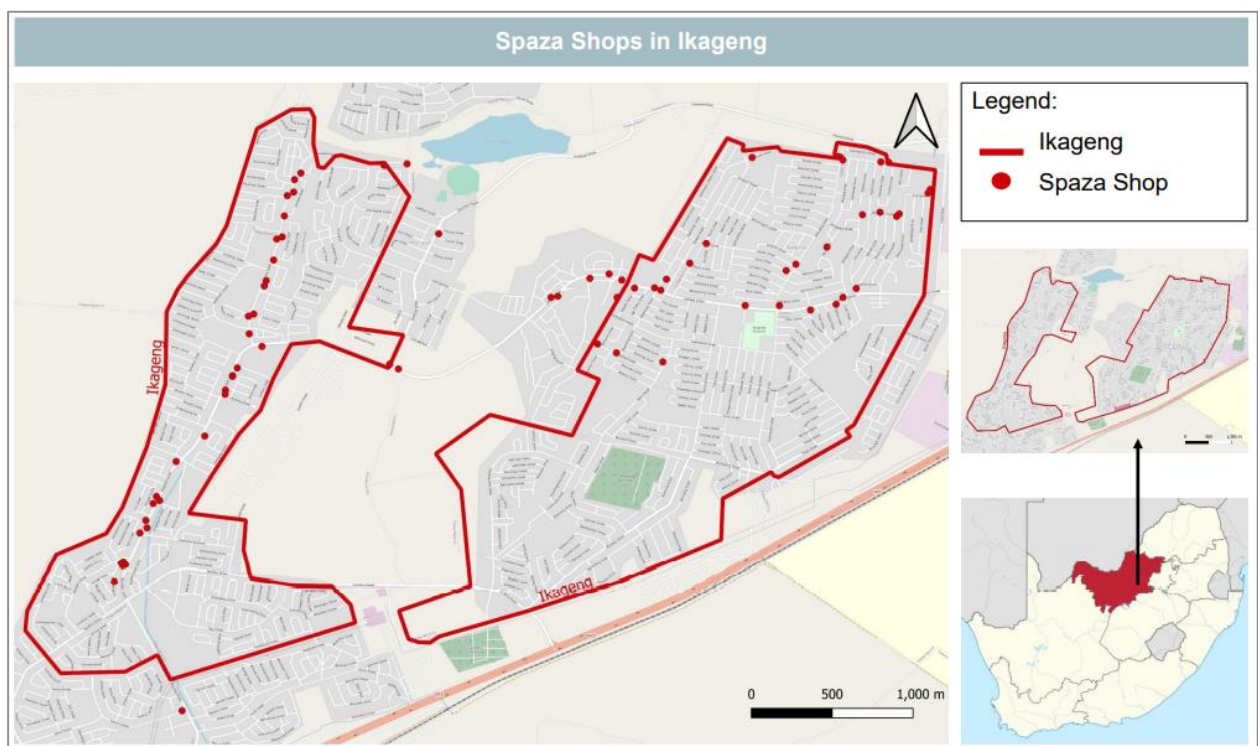


Figure 6-22: Current Spatial Distribution of Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-22 elucidates that Ikageng is a large area, with a 1-1 000m scale depicting the area. It is also evident that Ikageng developed beyond its formal boundaries, with development restricted by the N12. Ikageng is separated into two areas, with spaza shops in the one area distributed along the main route, and spaza shops in the other area distributed in only the northern part of

the settlement. Therefore, the entire population of Ikageng does not have equal access to spaza shops. It should also be noted that data were obtained by driving through the settlement and mapping the spaza shops. This may also influence the data, as all the spaza shops could not necessarily be mapped.

6.4.1.3 Kanana

Kanana is an urban low-income settlement within the greater community of Gugulethu near Cape Town, situated in the Western Cape Province (Methvin & Even-Zahav, 2015:15). Due to its heritage as an Apartheid-established settlement, this case study area forms part of the Cape Flats, approximately 15km from the City of Cape Town (Tepp & Millstein, 2015:426-427). Kanana is classified as a small urban low-income settlement, being only 0.2km² (Quantec, 2022), containing a dense population. In Figure 6-23, the current spatial distribution of spaza shops in this small urban settlement is illustrated.

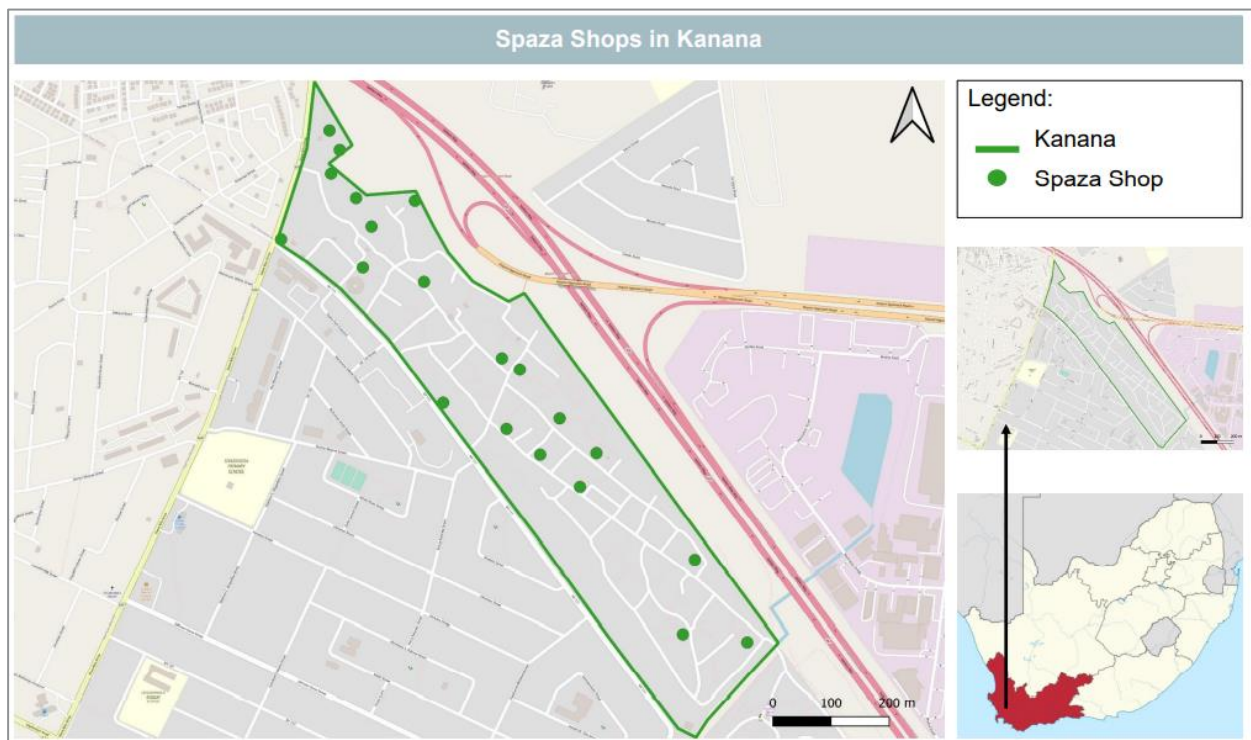


Figure 6-23: Current Spatial Distribution of Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

In Figure 6-23 the spaza shops in Kanana are spatially more evenly distributed, with spaza shops organically scattered throughout the whole area of Kanana. Therefore, the total population in Kanana has evenly distributed access to the spaza shops in the settlement. With Kanana being a small and densely populated low-income settlement, it is apparent that the walking distance between the spaza shops is not considerably far. The spaza shops are, therefore, densely distributed in Kanana.

6.4.2 Rural case study areas

Data were abstracted from the case studies by employing a mixture of methods including desktop studies, mapping and key-informants in order to visualise the distribution status quo of spaza shops in the rural case study areas. This is illustrated in the following subsections (sections 6.4.2.1 to section 6.4.2.3), analysing the spatial distribution of spaza shops in Agisanang, Misgund and Ganyesa, respectively.

6.4.2.1 Agisanang

Agisanang is a rural, low-income suburb of Sannieshof, located in the Tswaing Local Municipality, situated in the Ngaka Modiri Molema district of the North West Province (Roadmap.com, s.a.B). Sannieshof is a small rural town, primarily economically dependent on farming, being situated in the maize farming belt, infamous for its vast reserve of grain silos (SAHO, 2019). Therefore, the main economic contribution and employment in the Sannieshof and Agisanang areas are dependent on farming. In Figure 6-24, the current spatial distribution of spaza shops in Agisanang is captured.

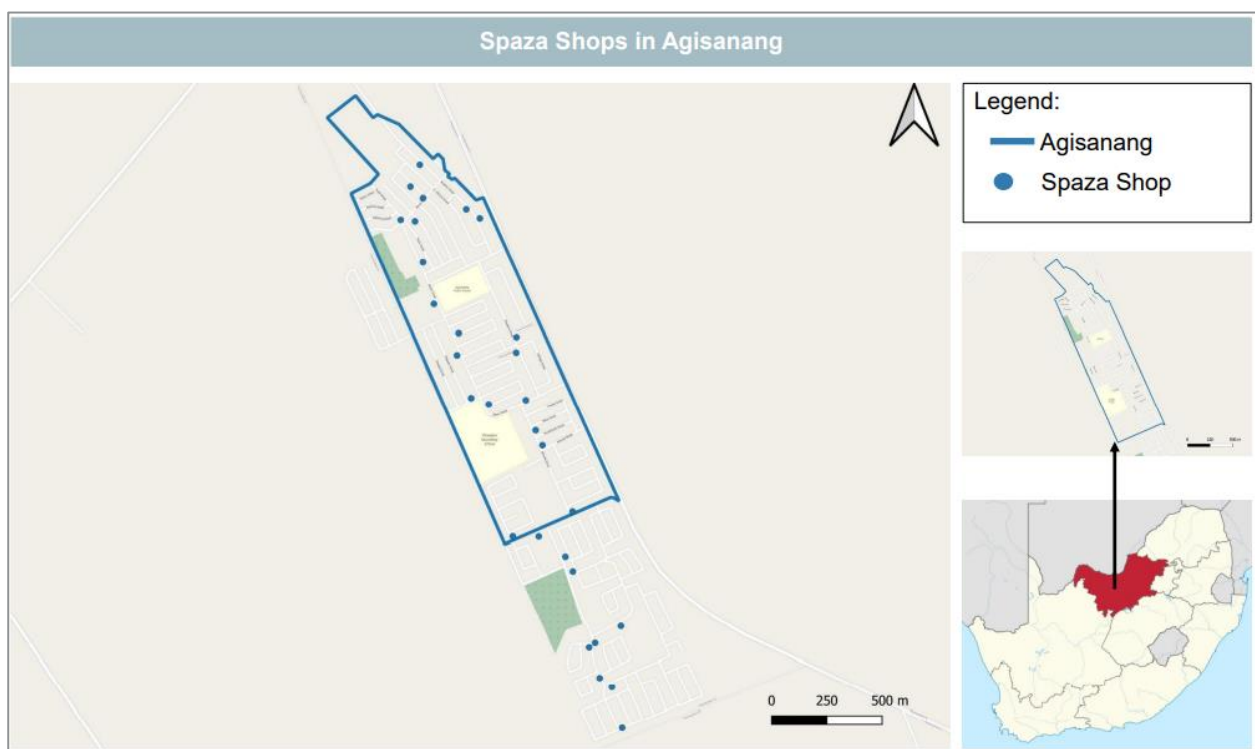


Figure 6-24: Current Spatial Distribution of Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

In Figure 6-24, the scale indicates the small size of the Agisanang settlement, with a scale of 1-500m used for the map. It is also evident that Agisanang is expanding, with spaza shops located outside of the settlement boundary. However, while some spaza shops are located close to one

another, the spaza shops are evenly distributed, serving the entire population in the settlement. This is also encouraged by the high density of households in the Agisanang settlement.

6.4.2.2 Misgund

Misgund is a rural low-income settlement situated near Joubertina in the Langkloof within the Kou-Kamma Municipality, on the border of the Eastern Cape Province. This municipal area is mainly rural (Mqikela, 2014:56), with a sparsely populated demography (Koukamma Local Municipality, 2020:45). The main economic activity within this area is agriculture (Van der Mescht, 2004:686). Figure 6-25 illustrates the spatial distribution status quo of spaza shops within the Misgund settlement.

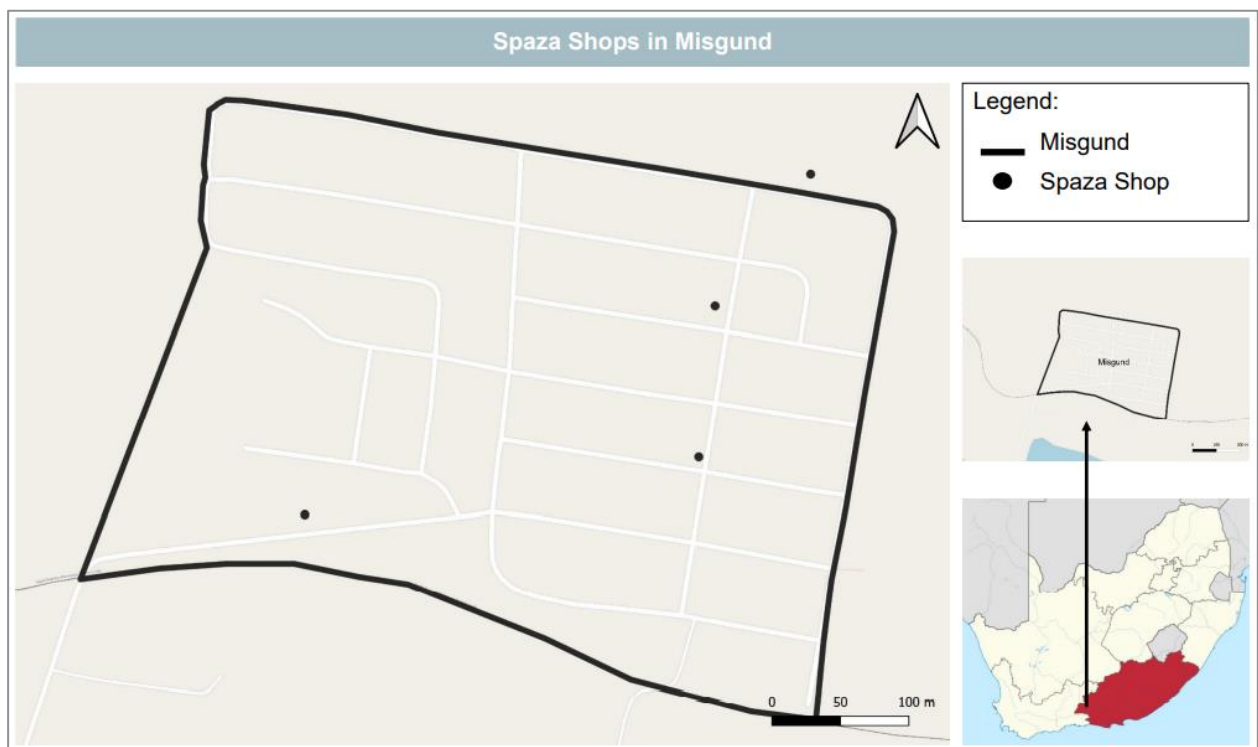


Figure 6-25: Current Spatial Distribution of Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

It is evident from Figure 6-25, that the existing spaza shops are situated more in the eastern part of Misgund, with the spaza shops not located near one another. One spaza shop in the south-western part of Misgund is also further from other spaza shops. Therefore, the residents located in the western part of Misgund would have to travel further to use the spaza shops' services. The scale of the map being 1-100m also indicates that Misgund is an exceedingly small rural settlement with a low household density. Therefore, this substantiates the small number of spaza shops present in the settlement.

6.4.2.3 Ganyesa

Ganyesa is a rural low-income settlement that forms part of the Kagisano-Molopo Local Municipality within the Dr Ruth Segomotsi Mompati District Municipality in the North West Province, situated 70km from Vryburg, the nearest urban settlement (SA-Venues, s.a.). This settlement is also established on the traditional land of the local Tswana tribe (SA-Venues, s.a.). Considering this, Ganyesa is acknowledged as a tertiary node in the Dr Ruth Segomotsi Mompati Integrated Development Plan (IDP) (Dr Ruth Segomotsi Mompati, 2022:24). Therefore, Ganyesa is classified as a core nodal rural area, delivering higher order services, on a development corridor located in Ganyesa (Dr Ruth Segomotsi Mompati, 2022:24-30). Ganyesa is further earmarked in the IDP (Dr Ruth Segomotsi Mompati, 2022:35) to form part of the rural town revitalisation projects in order to provide investment opportunities in Ganyesa. Therefore, it may be assumed that Ganyesa comprises economic activities that are part of both the informal and formal economy. Figure 6-26 illustrates the current spatial distribution of spaza shops in Ganyesa.

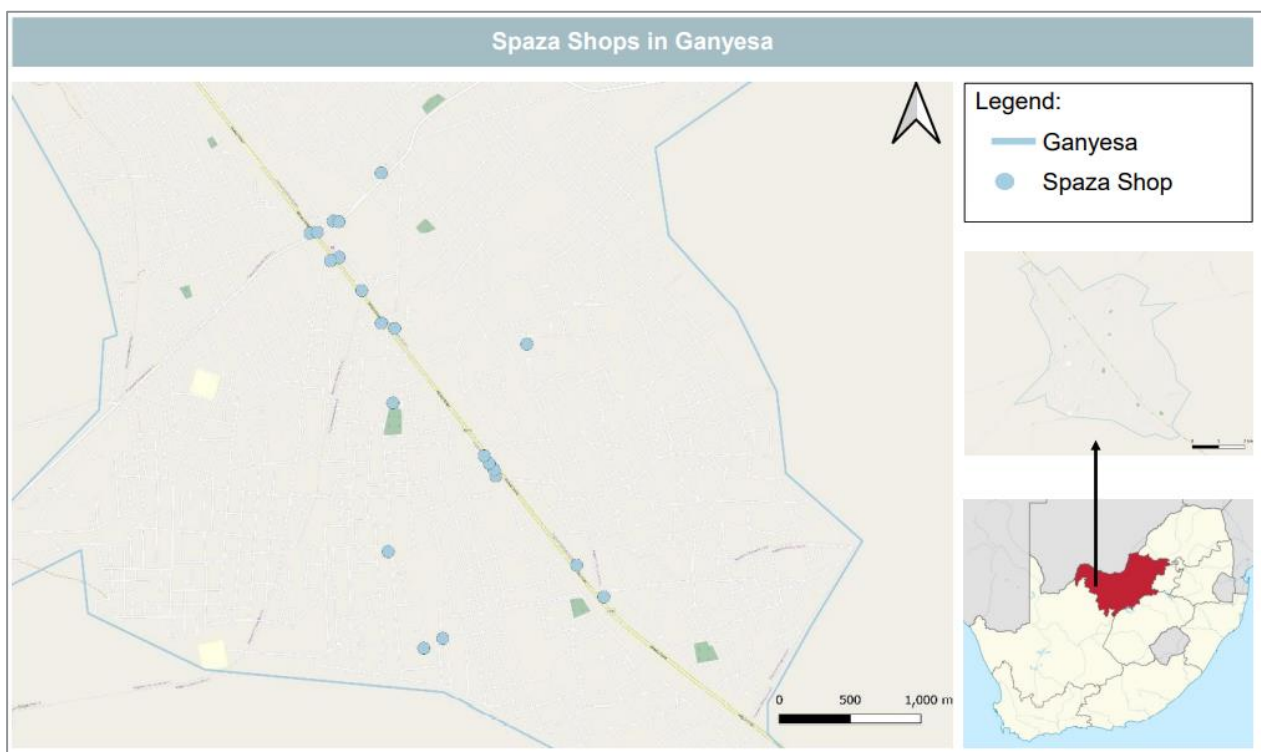


Figure 6-26: Current Spatial Distribution of Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

Figure 6-26 illustrates that the spaza shops in Ganyesa are concentrated mainly on one route. Therefore, the outer parts of the low-income settlement do not have easy access to spaza shops. This may be due to formal retail facilities also being situated within the Ganyesa settlement. Additionally, the northwestern as well as the south-western parts of Ganyesa do not comprise any

spaza shops,. This, together with the low density and the larger size of the settlement, indicate the long travel distance that some of the residents have to undertake in order to enjoy the convenience of the spaza shops in Ganyesa.

6.5 Mapping of the current sphere of influence guidelines

In low-income settlements, the spatial planning guidelines for the spheres of influence for spaza shops are suggested to be between 100m-300m as well as a 5-minute walking time, as determined in the literature study (c.f. section 5.2). In this section, these guidelines are mapped in each urban and rural case study area separately, to illustrate how the guidelines are reflected in reality or the “real-world”.

6.5.1 Urban case study areas

For the urban case study areas, two maps are included for each case study area, illustrating a sphere of influence of both 100m and 300m for the spaza shops, respectively. In illustrating this, the defined guidelines are elucidated for both the lower (100m) and upper (300m) limits. Therefore, a 100m and 300m sphere of influence in terms of the spaza shop status quo, as depicted in the preceding sections, are illustrated for Jan Kempdorp, Ikageng, and Kanana.

6.5.1.1 Jan Kempdorp

In terms of the urban case study areas (c.f. section 6.2.1), Jan Kempdorp comprises a projected population of 5 867 and a projected number of 10 785 households for 2021. This population resides mainly in Valspan, a low-density, low-income area, with a projected monthly household income of R5 856,99 in 2021. Figure 6-27 illustrates the 100m sphere of influence for spaza shops in Valspan, Jan Kempdorp.

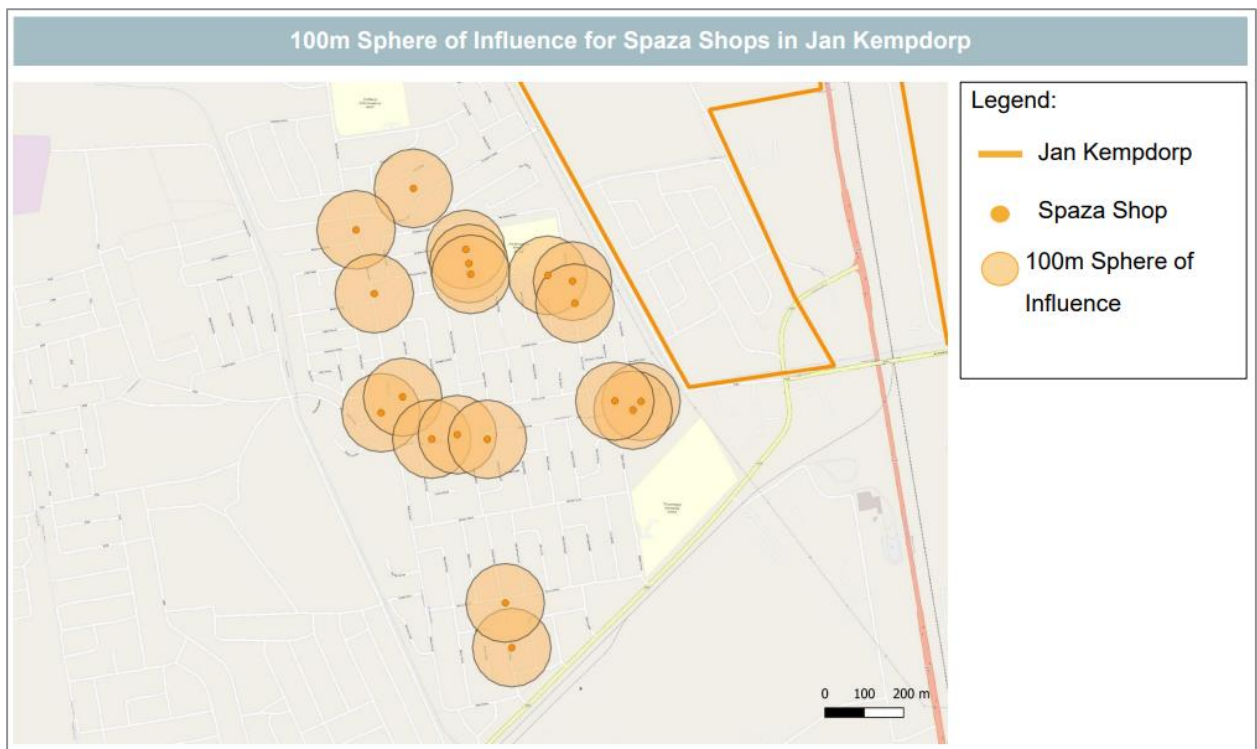


Figure 6-27: 100m Sphere of Influence for Spaza Shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

From Figure 6-27 it is evident that a 100m sphere of influence for spaza shops does not serve a large area, leaving open space where some households are not included the a 100m radius of any spaza shop. Furthermore, it may be observed that the existing spaza shops are located in close proximity, ensuring that the market areas overlap. With the overlapping of market areas, excessive competition between the retail facilities may occur, impacting the viability and profitability of the spaza shops.

According to the guidelines for the Classification and Hierarchy of retail facilities, the upper limit of the sphere of influence is a 300m radius, as illustrated in Figure 6-28.

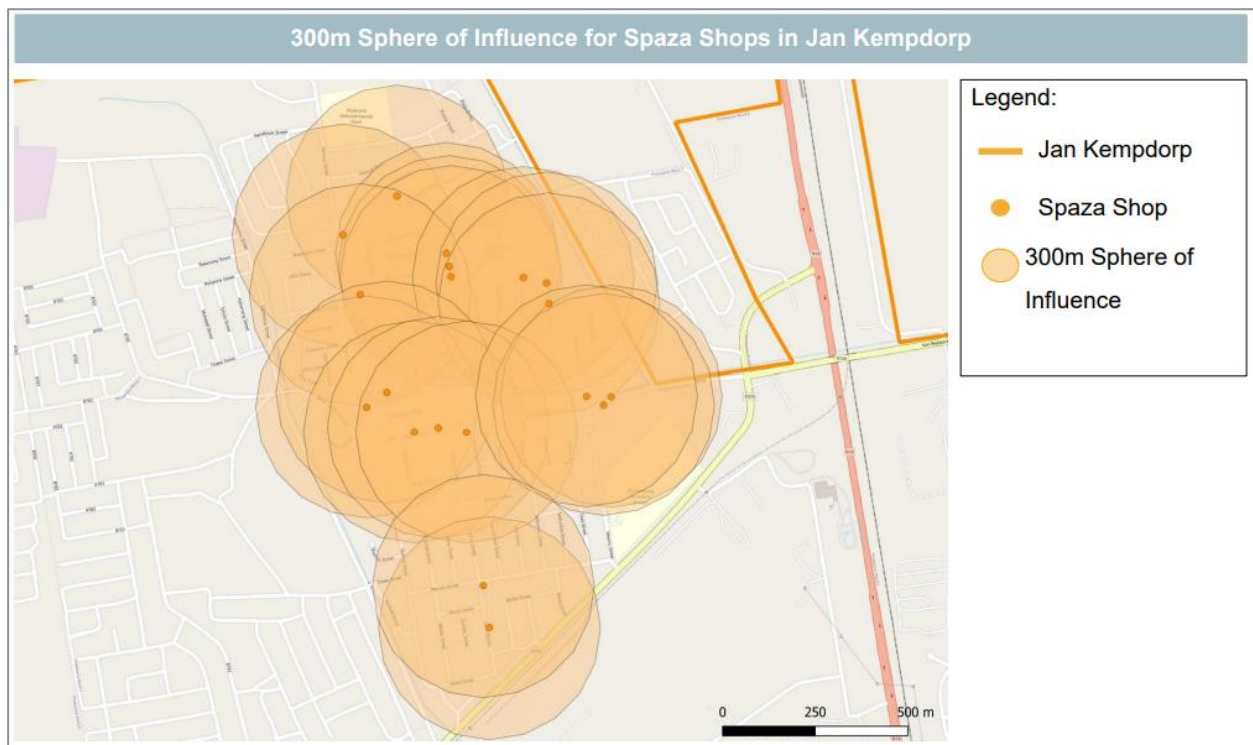


Figure 6-28: 300m Sphere of Influence for Spaza Shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

Figure 6-28 clarifies that a 300m sphere of influence for spaza shops serves a large area, with the market areas of the spaza shops overlapping immensely. This contributes to the idea that a 300m sphere of influence for spaza shops in Jan Kempdorp is unrealistic, as it implies immense competition between the spaza shops, to such an extent that the spaza shops will not be viable or feasible at all.

6.5.1.2 Ikageng

Ikageng comprises the highest population of the urban case study areas, with a projected population of 114 662 and a projected 40 428 households for 2021 (c.f. section 6.2.1). This sizeable population resides in a higher density low-income settlement signifying that more spaza shops are required in Ikageng to serve the entire population. Furthermore, the population in Ikageng had an average projected monthly household income of R29 936,86 in 2021, denoting a population with strong buying power. In view of this, Figure 6-29 illustrates the 100m sphere of influence for spaza shops in Ikageng.

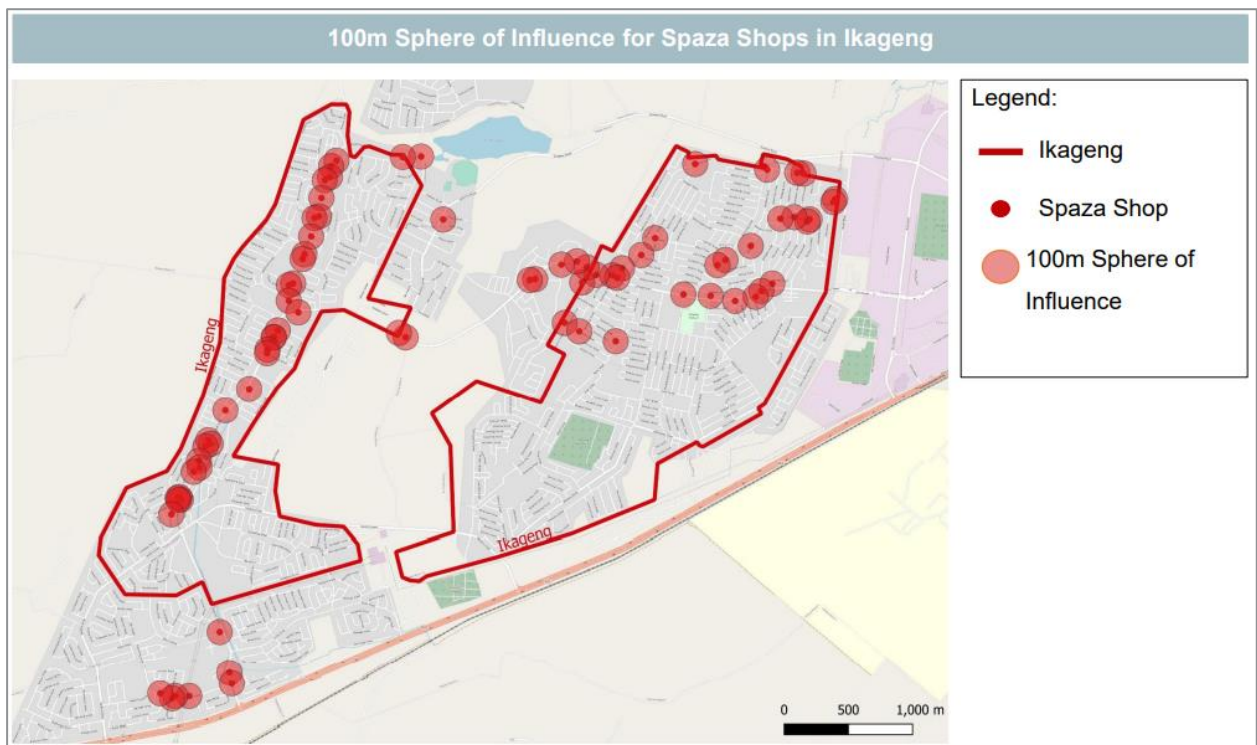


Figure 6-29: 100m Sphere of Influence for Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

In Figure 6-29, it is apparent that a 100m sphere of influence for spaza shops in Ikageng is unrealistic, with only some households having access to spaza shops within 100m. Therefore, a large part of the settlement is excluded from the 100m sphere of influence serving the population. Immense overlapping is also evident, influencing the viability and feasibility of the spaza shops in Ikageng.

According to the guidelines in Chapter 5, the upper limit of the influence sphere for spaza shops is a 300m radius, as illustrated in Figure 6-30.

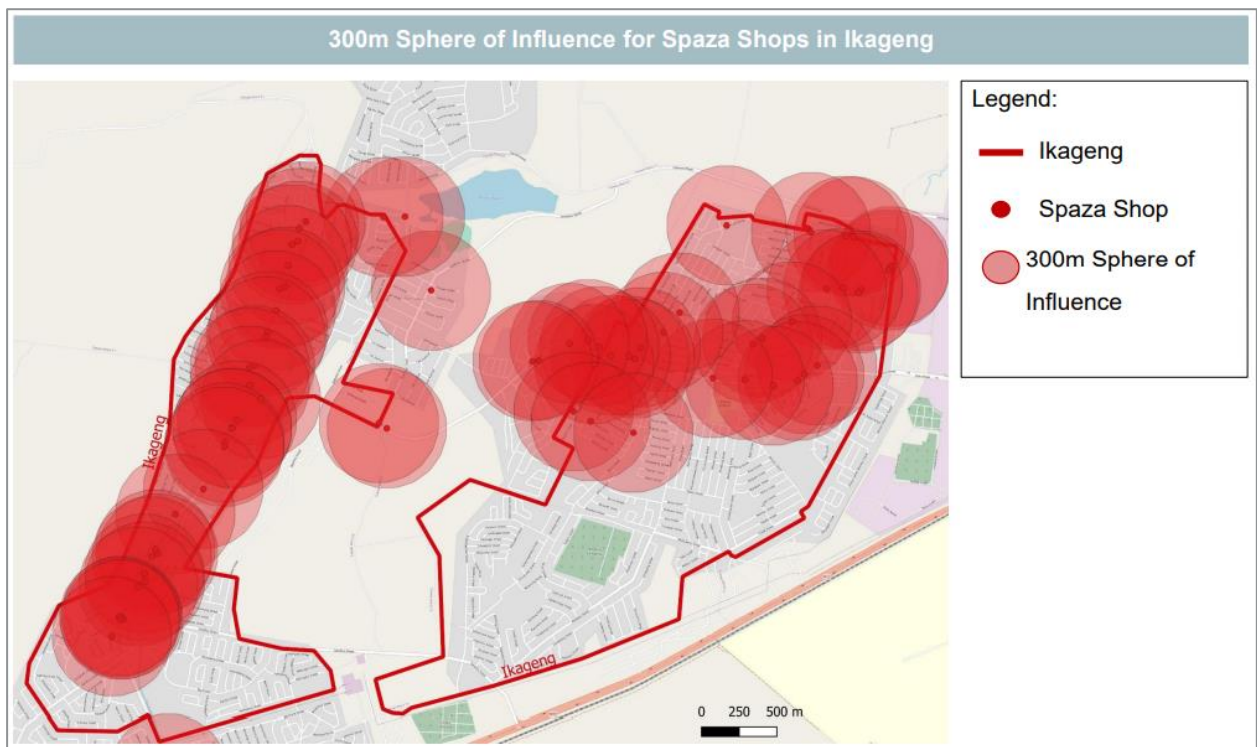


Figure 6-30: 300m Sphere of Influence for Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-30 illustrates significant overlapping in market areas according to the 300m sphere of influence. This suggests that most of the spaza shops in the Ikageng settlement may not be viable and feasible, considering the number of other spaza shops contained in the same sphere of influence. However, Ikageng comprises a substantial population with a high density that may alleviate the impact of overlapping spheres of influence. Considering this, most of Ikageng's residents have access to spaza shops within 300m.

6.5.1.3 Kanana

Similar to Ikageng, Kanana also comprises a considerably large population, with a projected total of 11 450 residents and 4 536 households for 2021 (c.f. section 6.2.1). This large population also resides in an extremely high-density area, since Kanana is a small settlement in terms of physical boundaries. Therefore, it may be assumed that more spaza shops that are situated in close proximity to one another are required in Kanana in order to serve all the households. Further to this, the population in Kanana had a projected monthly household income of R3 446,18 in 2021. Considering this, Figure 6-31 illustrates the 100m sphere of influence for spaza shops in Kanana.

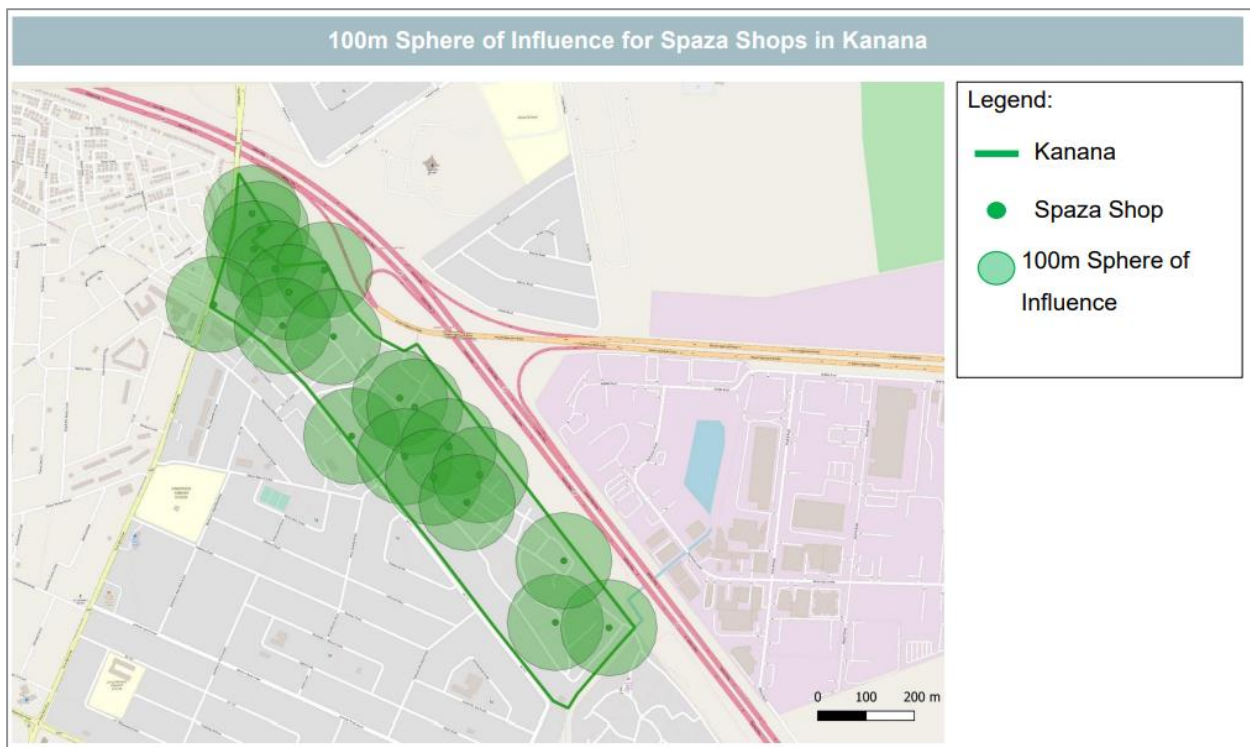


Figure 6-31: 100m Sphere of Influence for Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

In Figure 6-31 it is apparent that a 100m radius delineating the spheres of influence for spaza shops in Kanana is an unrealistic approach, with an extensive number of market areas overlapping. This may be attributed to the high number of spaza shops available in Kanana, signalling that a 100m sphere of influence for spaza shops in Kanana is too extensive. However, considering the high household density and the considerable population in Kanana, the impact of the overlapping market areas on viability and feasibility of the spaza shops may not be too excessive.

The upper limit of 300m for the spheres of influence of spaza shops in Kanana, is illustrated in Figure 6-32.

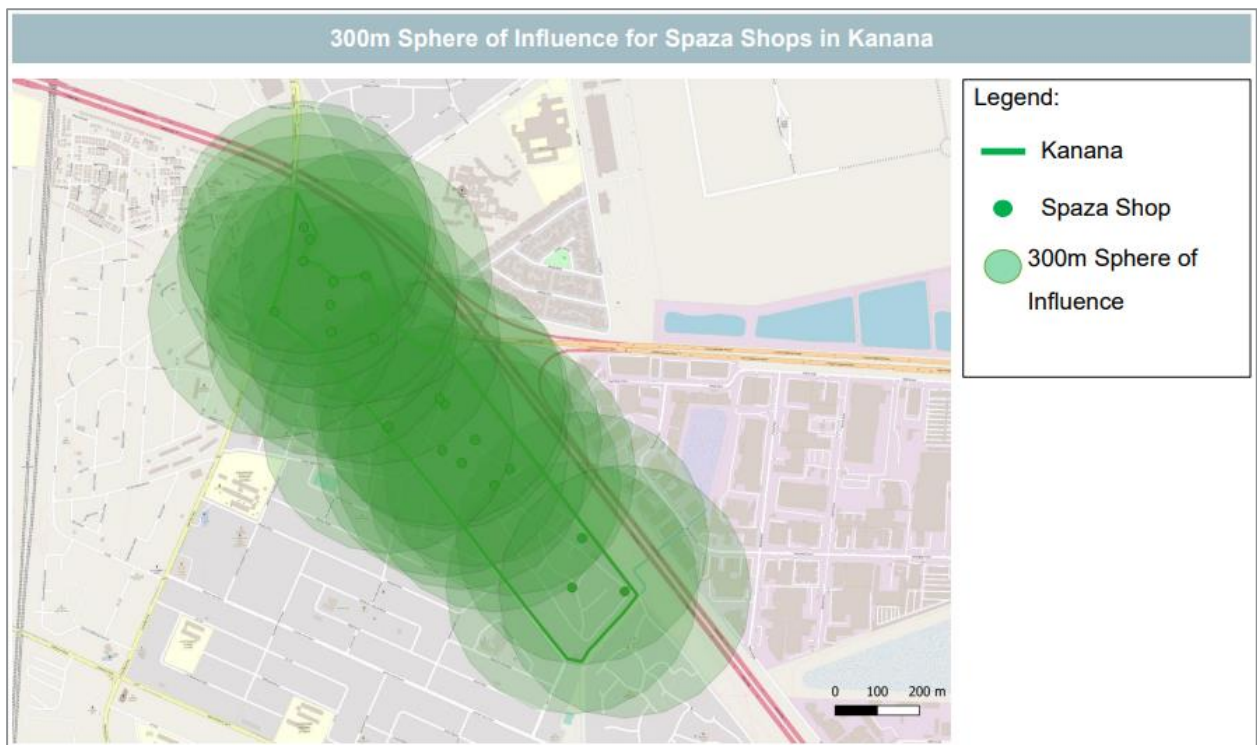


Figure 6-32: 300m Sphere of Influence for Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

With an immense overlapping of market areas for the spaza shops in Kanana, Figure 6-32 clarifies that a 300m sphere of influence for spaza shops in Kanana is definitely not optimal. The market area is too extensive, indicating unsustainable competition between the spaza shops that will inevitably result in short-lived viability and feasibility of the spaza shops in Kanana.

6.5.2 Rural case study areas

For the rural case study areas, two maps are also included for each case study area, illustrating a sphere of influence of both 100m and 300m for the spaza shops, respectively. In illustrating this, both the lower and upper limits for the spheres of influence, as determined by the Chapter 5 guidelines, are elucidated. Therefore, a 100m and 300m sphere of influence are illustrated for Agisanang, Misgund and Ganyesa.

6.5.2.1 Agisanang

Regarding the rural case study areas (c.f. section 6.2.2), Agisanang comprises a small population, with a projected total of 2 071 residents and 599 households for 2021. These households reside in medium-density area, although Agisanang is a small settlement. Furthermore, the population in Agisanang also collected a projected monthly household income of R408,10 in 2021, which is extremely low. Considering this, Figure 6-33 illustrates the 100m sphere of influence for spaza shops in Agisanang.

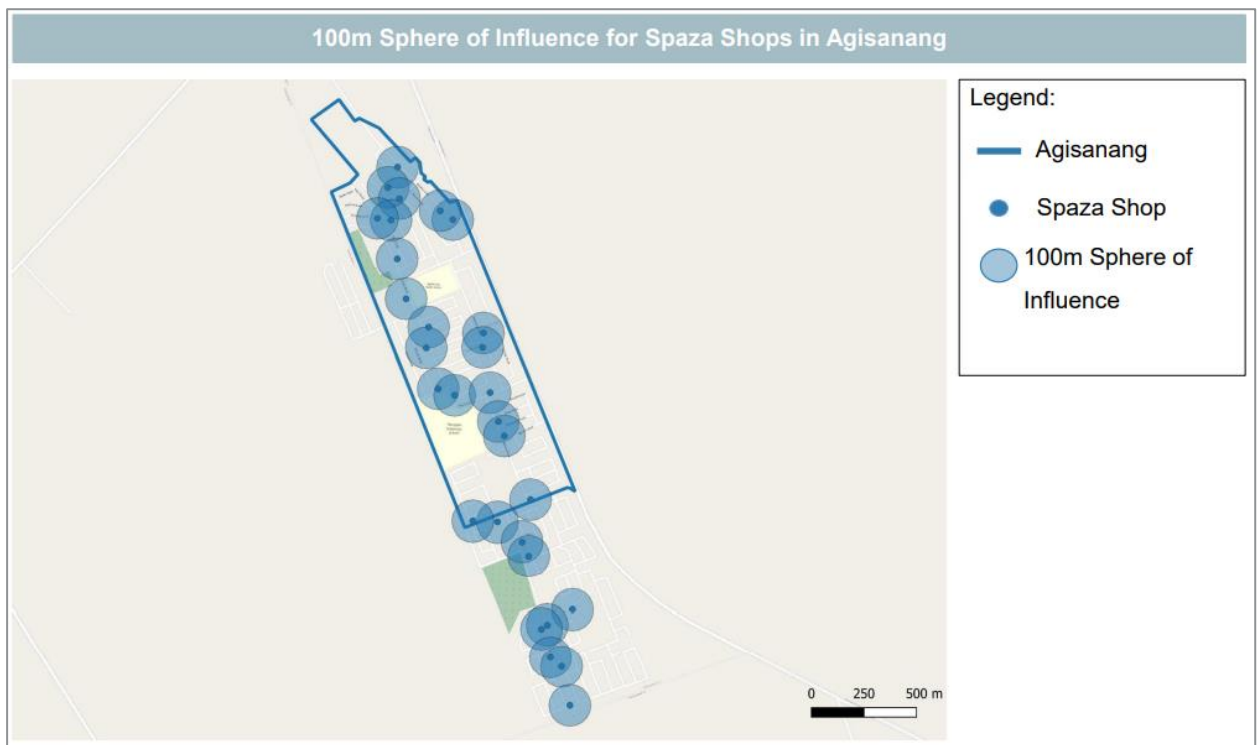


Figure 6-33: 100m Sphere of Influence for Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

Figure 6-33, depicts that a 100m sphere of influence for Agisanang may be realistic, as most of the population has access to spaza shops within the 100m radius. However, some overlapping of the market areas is still evident, which may impact the viability and feasibility of the spaza shops in Agisanang.

As alluded to, the higher limit for spaza shops' spheres of influence is proposed at 300m, as illustrated for Agisanang in Figure 6-34.

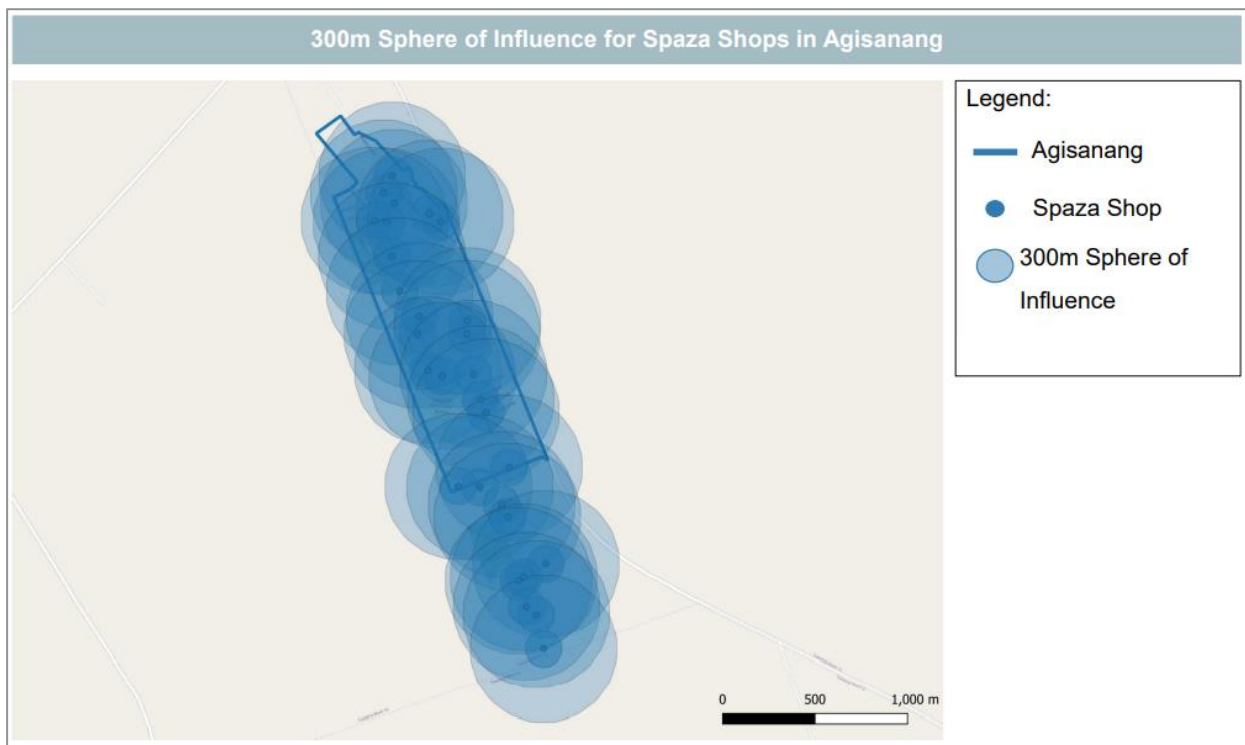


Figure 6-34: 300m Sphere of Influence for Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

Figure 6-34 exemplifies that a 300m sphere of influence for spaza shops in Agisanang is not optimal, with the market areas for the spaza shops overlapping immensely. This may cause significant competition between the spaza shops. This contributes to the idea that a 300m sphere of influence for spaza shops in Agisanang is unrealistic.

6.5.2.2 Misgund

Misgund has an exceedingly small population, with a projected population of 489 residents and 565 households for 2021 (c.f. section 6.2.2). This small population, however, resides in higher household density compared to the other rural settlements, as Misgund is also a small settlement in terms of its physical boundaries. Similar to Agisanang, households in Misgund earned a projected monthly income of R284,03 in 2021, which is exceptionally low. In view of this, Figure 6-35 illustrates the 100m sphere of influence for spaza shops in Misgund.

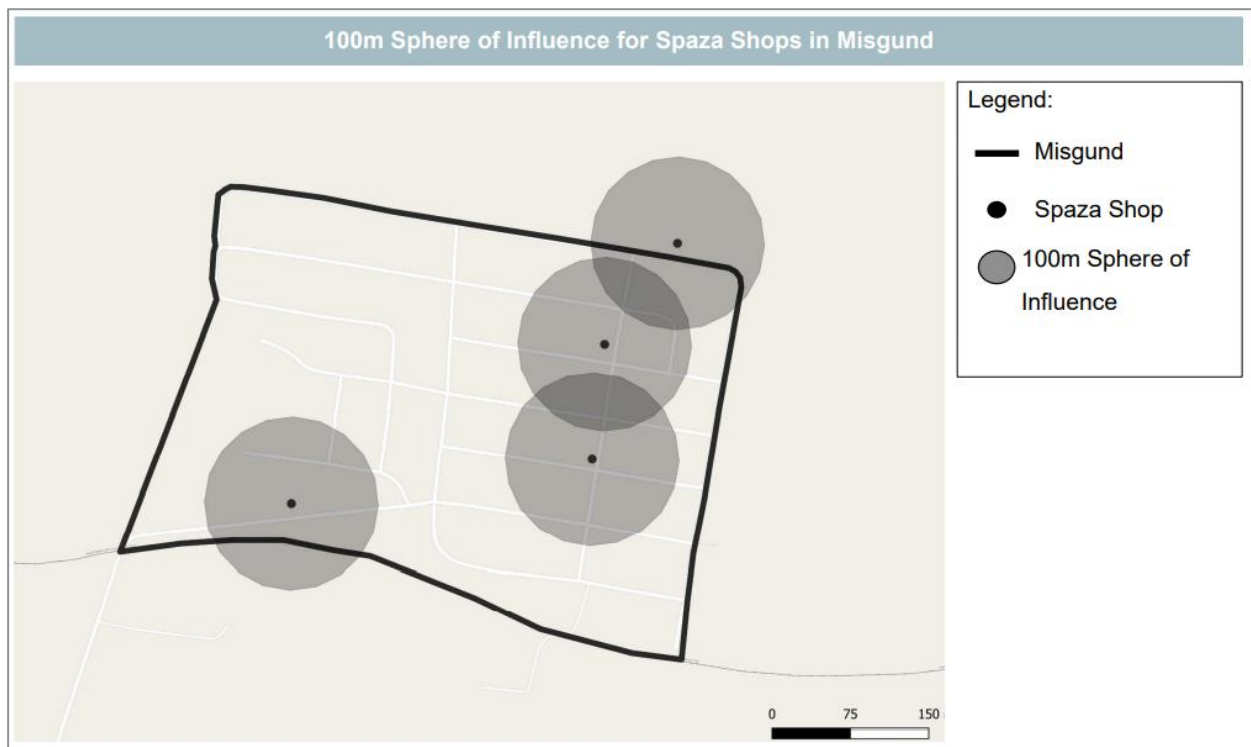


Figure 6-35: 100m Sphere of Influence for Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

Figure 6-35 denotes that a 100m sphere of influence for spaza shops in Misgund is fairly realistic, however, it may not be the optimum sphere of influence. This is due to the overlapping of market areas, affecting the spaza shops competing in each other's market area, and impacting the viability and feasibility of the spaza shops. Therefore, a 100m sphere of influence for spaza shops in Misgund may indicate that the area being serviced is too extensive, considering the low number of total households.

Affording comparison with the lower 100m limit, the upper limit of 300m for the spheres of influence, is illustrated in Figure 6-36 for the spaza shops in Misgund.

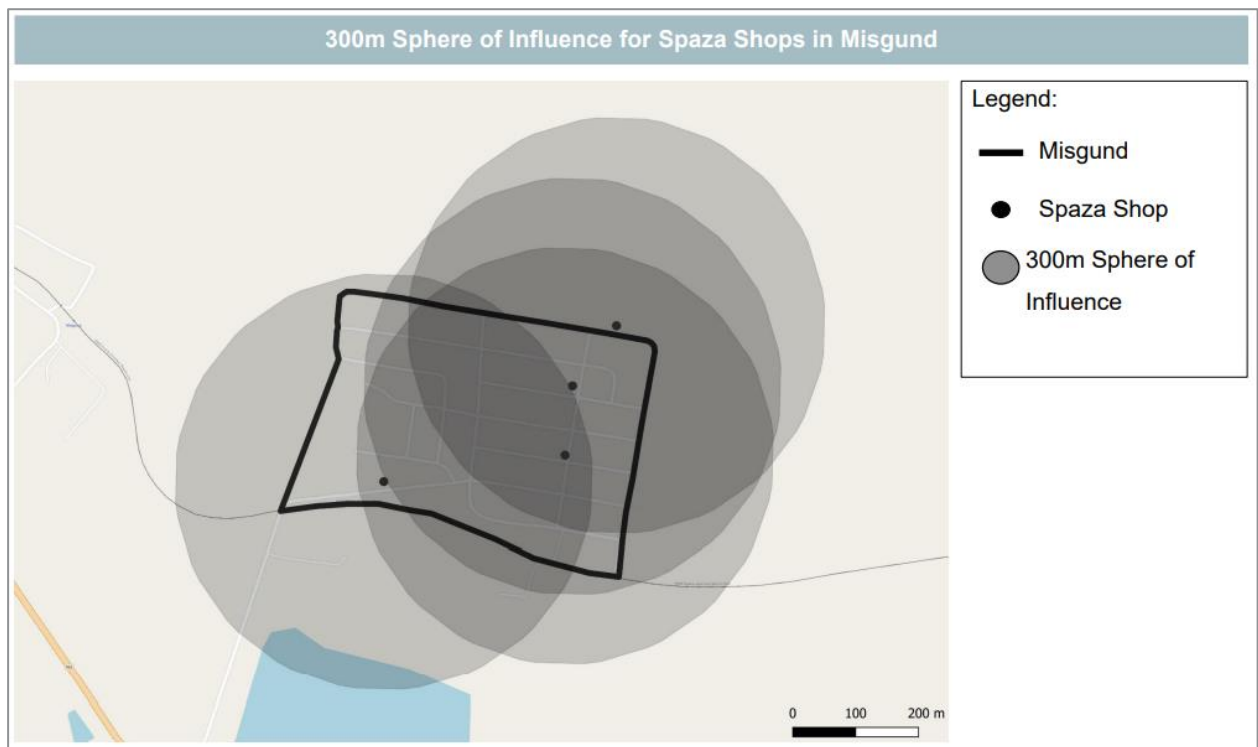


Figure 6-36: 300m Sphere of Influence for Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

It is evident from Figure 6-36 that a 300m sphere of influence radius for spaza shops in Misgund serves too large an area, with the market areas for the spaza shops overlapping. This suggests that a 300m sphere of influence for spaza shops in Misgund is unrealistic, impacting the viability and feasibility of the spaza shops. Additionally, the household numbers in Misgund are low, and therefore, a 300m sphere of influence is too extensive due to the limited availability of consumers with buying power.

6.5.2.3 Ganyesa

In comparison with the other rural case study areas (c.f. section 6.2.2), Ganyesa comprises a high population, with a projected population total of 24 510 and a projected 7 097 households for 2021. This sizeable population lives in an area with a significantly low household density, that may be attributed to Ganyesa being a large settlement, with an vast number of households living rather dispersed. Further to this, the population in Ganyesa had an estimated projected monthly household income of R2 920,35 in 2021, influencing the buying power of the residents. Considering this, Figure 6-37 illustrates the 100m sphere of influence for spaza shops in Ganyesa.

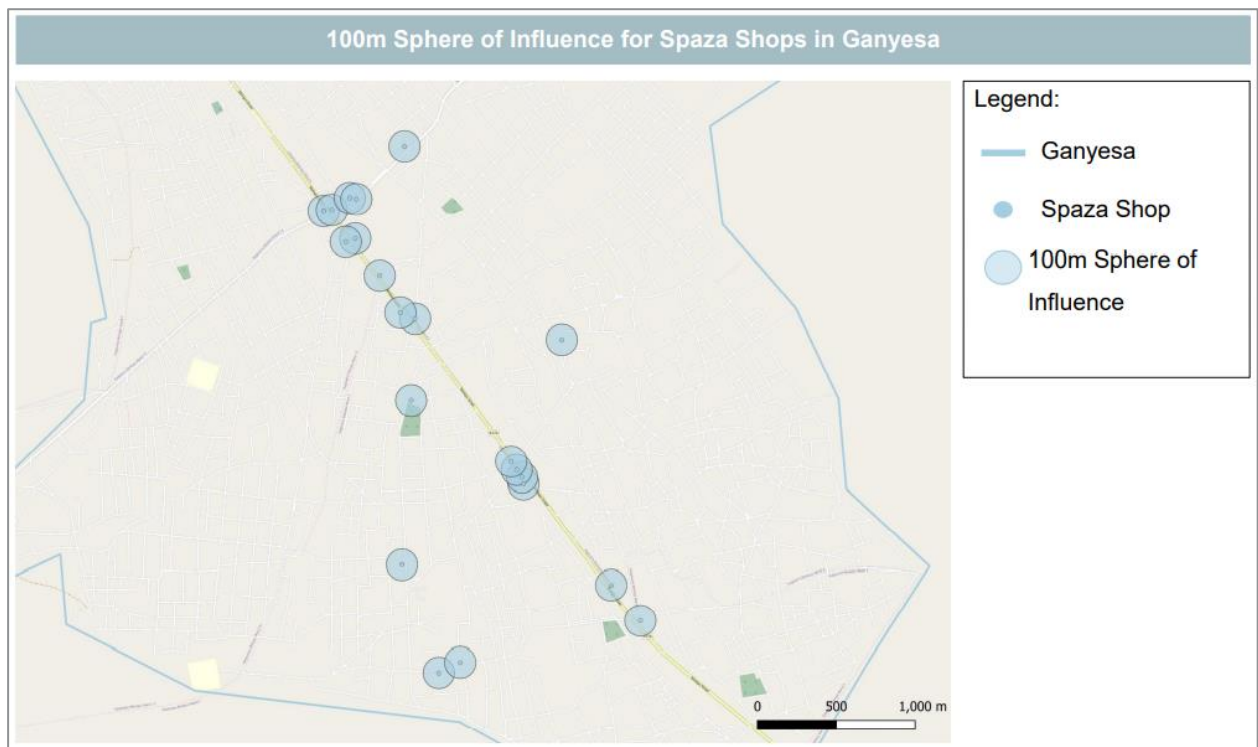


Figure 6-37: 100m Sphere of Influence for Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

With Ganyesa being a large settlement in terms of physical boundaries, Figure 6-37 illustrates that a 100m sphere of influence for the existing spaza shops, merely serves small areas within the settlement. Therefore, most of the residents in Ganyesa do not have access to spaza shops within a 100m radius from the household. This denotes that a 100m sphere of influence for spaza shops in Ganyesa may well be unrealistic.in.

Figure 6-38 illustrates the upper limit radius of 300m for the spheres of influence of the spaza shops located in Ganyesa.

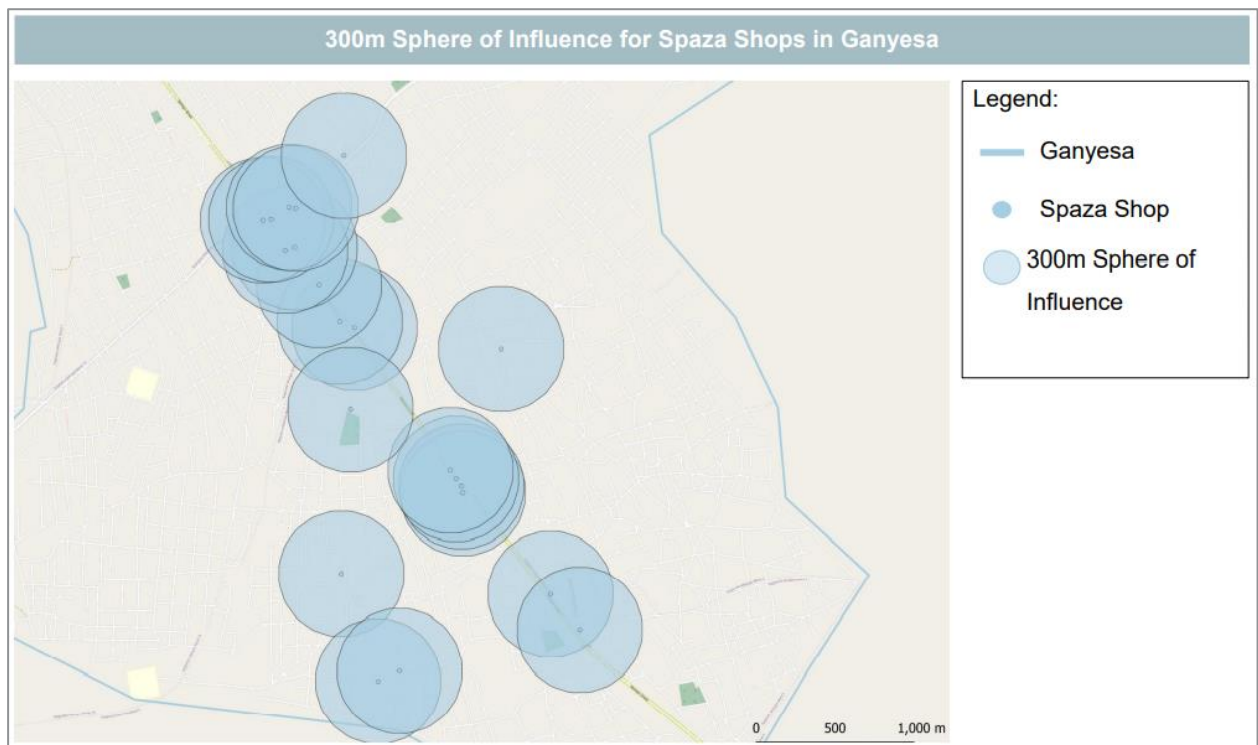


Figure 6-38: 300m Sphere of Influence for Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

With the spaza shops in Ganyesa located in close proximity to one another, Figure 6-38 illustrates the immense overlapping that is prevalent with a 300m sphere of influence for spaza shops in Ganyesa. As explained earlier, this may impact the viability and feasibility of the spaza shops in Ganyesa. The low household density in Ganyesa also contributes to the unrealistic market area of a 300m sphere of influence. However, considering that most of the spaza shops are concentrated along one route in Ganyesa, even with a 300m sphere of influence, most of Ganyesa's residents still do not have access to spaza shops while some of the residents have access to more than one spaza shop within a 300m radius. Further to this, the low monthly household income in Ganyesa may pose a further risk to the viability and feasibility of the current spaza shops.

Further to the guidelines for the Classification and Hierarchy of Retail Facilities in South Africa suggesting a 100-300m sphere of influence for spaza shops, it is also indicated that consumers will, most likely, only travelling as far as a 5 minute walk to the nearest spaza shop (c.f. section 5.2). In the ensuing section, these walkability guidelines are mapped to illustrate the "real-world" application of these guidelines. Isochrones are utilised to visualise these 5-minute walking distances, through employing QGIS for mapping purposes. Isochrones map data while considering the spatial and geographical characteristics of the area, for example, boundaries, roads and rivers. The use of isochrones will further be discussed in section 6.7.

6.5.3 Urban case study areas

For the urban case study areas, a map is included for each case study area illustrating a 5-minute walking time to the existing spaza shops. In illustrating this, all measurable criteria as depicted in the directives of Chapter 5, are encompassed in the study. Therefore, a 5-minute walking isochrone is illustrated for Jan Kempdorp, Ikageng, and Kanana, respectively.

6.5.3.1 Jan Kempdorp

As mentioned earlier, Jan Kempdorp comprises a projected 10 785 households for 2021, residing in a small settlement area. Considering this, Figure 6-39 illustrates the 5-minute walking time isochrones for spaza shops in Valspan, Jan Kempdorp.



Figure 6-39: 5-minute walking time to Spaza Shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

Figure 6-39 illustrates that 5-minute walking isochrones in Valspan, Jan Kempdorp ensure that a substantial number of households have access to spaza shops within a walking distance of 5-minutes. An immense overlap of market areas is evident from Figure 6-39; therefore, consumers may have access to a spaza shop in less than 5 minutes or have a choice between various easily accessible spaza shops.

6.5.3.1 Ikageng

Ikageng comprises a projected 40 428 households for 2021, distributed in a substantially large settlement area. In view of this, Figure 6-40 illustrates the 5-minute walking time isochrone for spaza shops in Ikageng.

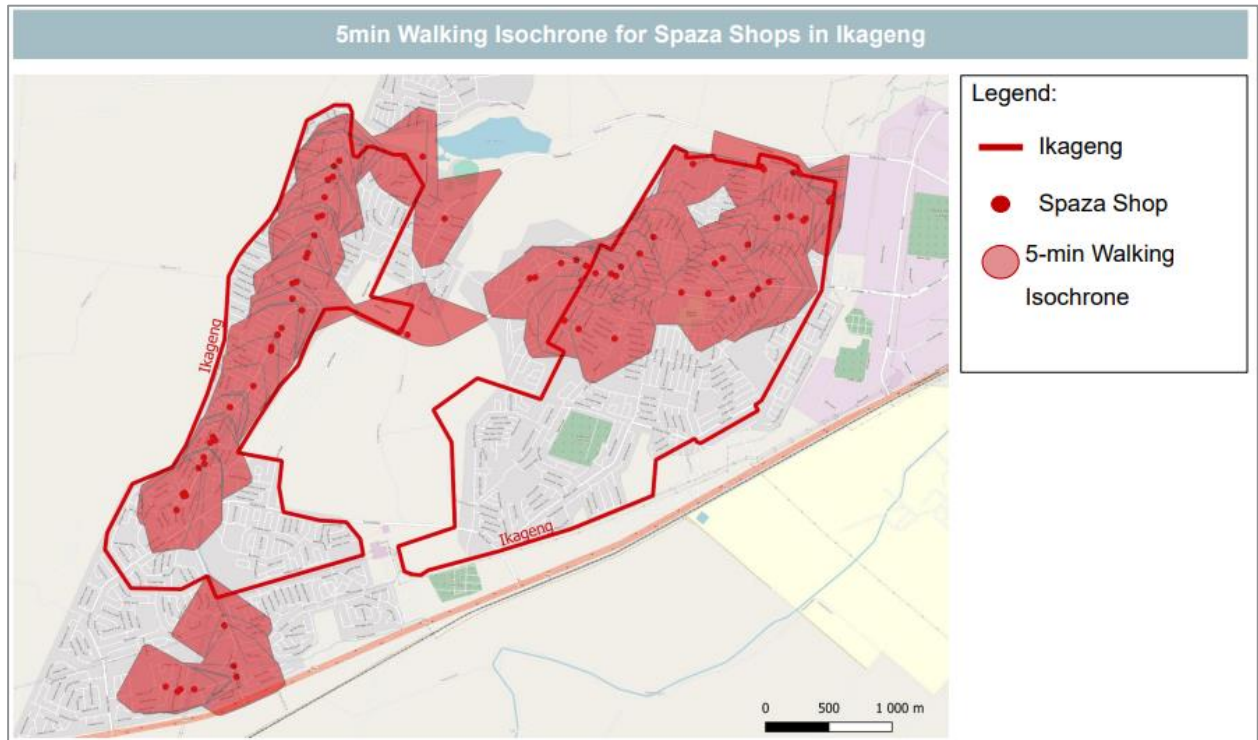


Figure 6-40: 5-minute walking time to Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-40, shows that most households in Ikageng have access to a spaza shop within a 5-minute walk. Substantial overlapping of market areas is also evident, indicating that some households may have a choice between multiple spaza shops located within walking distance or that they may have access to a spaza shop in less than 5 minutes.

6.5.3.2 Kanana

The total projected number of households in Kanana for 2021 is 4 536. However, Kanana is an exceedingly small settlement, being merely 0.2km² in size. Figure 6-41 illustrates the 5-minute walking isochrones for spaza shops in Kanana.

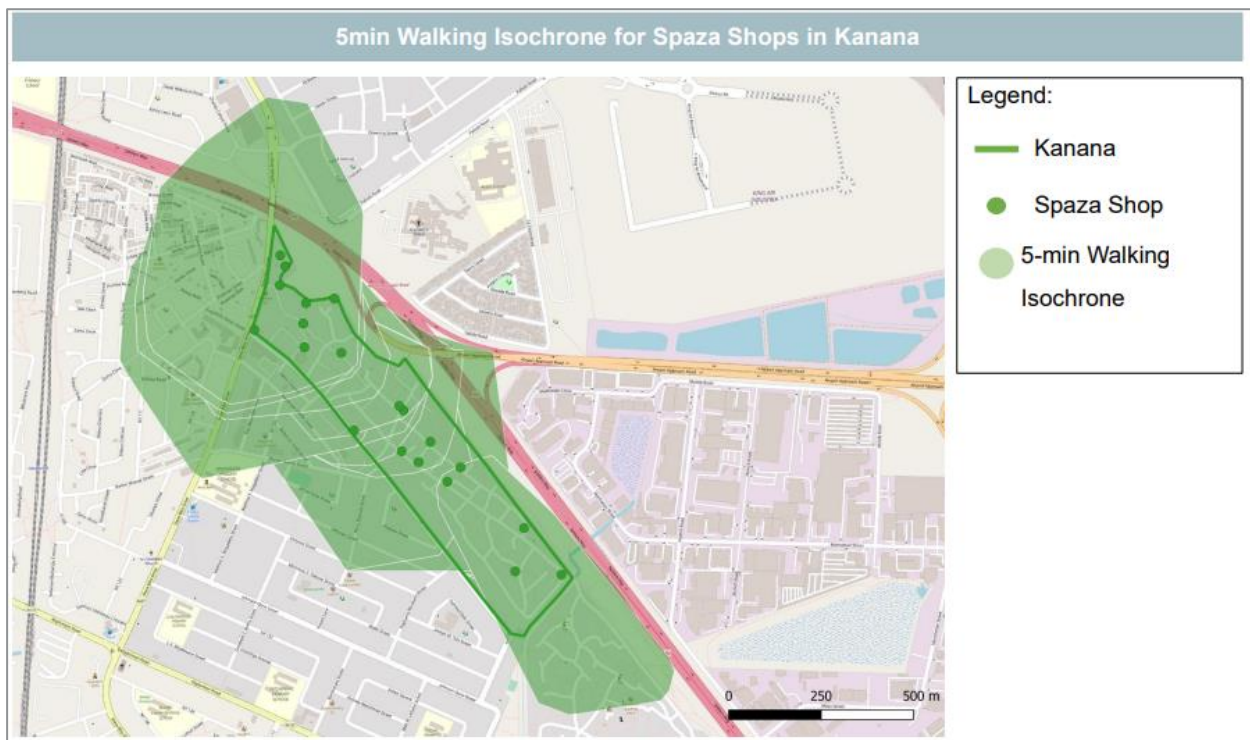


Figure 6-41: 5-minute walking time to Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

In Figure 6-41, substantial overlapping of market areas is apparent. This may be due to Kanana being an exceedingly small settlement, indicating that all consumers have access to a spaza shop within a 5-minute walking time.

6.5.4 Rural case study areas

Similar to the urban case study areas, maps are also provided for the rural low-income settlements, illustrating a 5-minute walking commute to the existing spaza shops in the various rural case study areas. Therefore, a 5-minute walking isochrone is illustrated for Agisanang, Misgund and Ganyesa.

6.5.4.1 Agisanang

Compared to the other rural case study areas (c.f. section 6.2.2), Agisanang comprises a projected 599 households for 2021, distributed in an average-sized rural low-income settlement. In view of this, Figure 6-42 illustrates the 5-minute walking time isochrones for spaza shops in Agisanang.

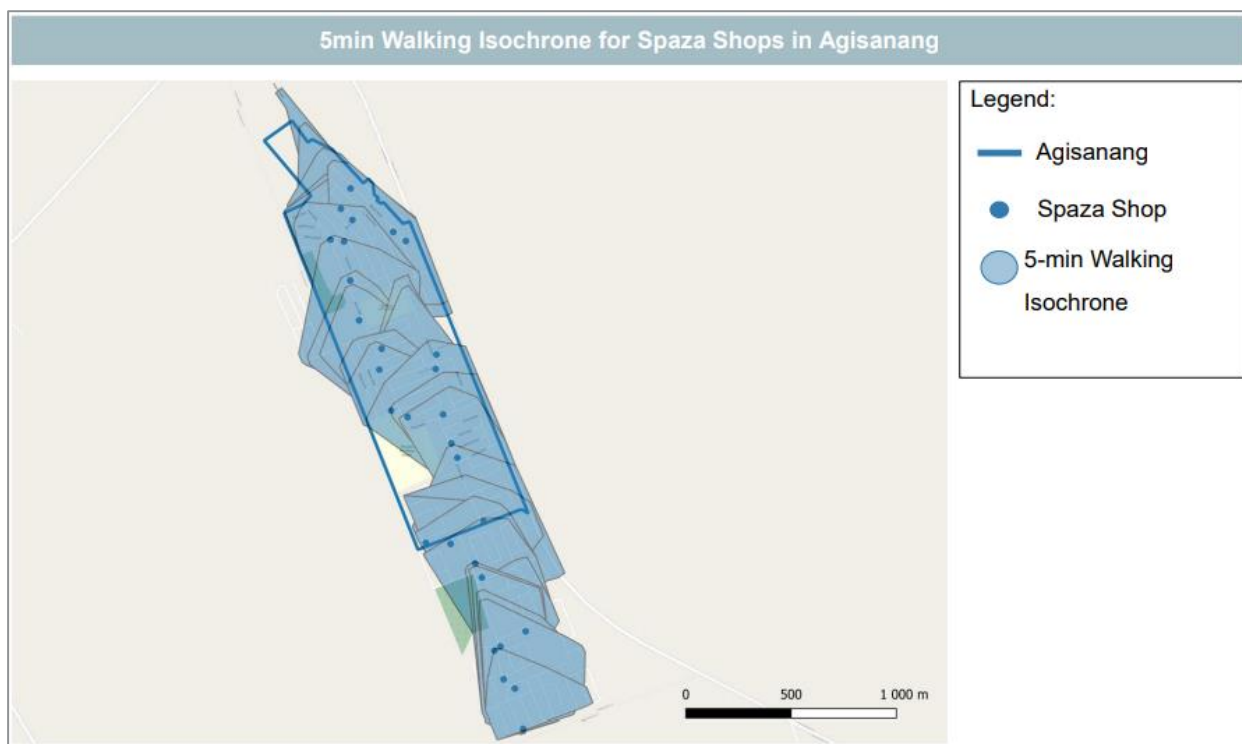


Figure 6-42: 5-minute walking time to Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

In Figure 6-42, substantial overlapping of market areas is apparent. This indicates that all consumers have access to a spaza shop within a 5-minute walking time. Some households may even have a choice between various accessible spaza shops or have access to a spaza shop in less than 5 minutes' walking time.

6.5.4.2 Misgund

Misgund contains a projected household population of 565 for 2021. Misgund is only 0.2km² in size, signalling a high level of walkability within the settlement. Figure 6-43 illustrates the 5-minute walking time isochrone for spaza shops in Misgund.



Figure 6-43: 5-minute walking time to Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

Although Misgund only comprises four spaza shops, Figure 6-43 illustrates that all households in Misgund have access to a spaza shop within a 5-minute walking time. Considering the immense overlapping of market areas, it is evident that most households may essentially have access to a spaza shop in less than 5 minutes.

6.5.4.3 Ganyesa

Ganyesa's location on traditional land presents the settlement with a number of unique characteristics, of which a higher projected household population of 7 097 households for 2021, is one. This large household population is, however, evenly distributed and subsequently located within a low-density area. In view of this, Figure 6-44 illustrates the 5-minute walking time isochrone for spaza shops in Ganyesa.



Figure 6-44: 5-minute walking time to Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

With Ganyesa being a large settlement, Figure 6-44 illustrates that some households do not have access to a spaza shop within a 5-minute walking time. However, Ganyesa also includes some formal retail facilities, indicating that households may choose between various accessible retail facilities and that a 5-minute walking time to a spaza shop may be realistic in this settlement. Some households may even have access to more than one spaza shop within a 5-minute walking time, due to the proximity of the spaza shops to one another.

It may be deduced from the preceding sections that several options exist for the radius of the spheres of influence for spaza shops in both urban and rural low-income settlements. By merely visually analysing the spheres of influence on the maps provided, an optimal sphere of influence may be visually demarcated for each case study area. The following section provides an optimal sphere of influence for the different case study areas based on visual observation and demarcation.

6.6 Visual optimal sphere of influence for different case study areas

In accordance with the literature study (c.f. section 4.4.2), no or minimal overlapping of market areas should be present for spaza shops to be viable and profitable. With most of the lower (100m) and upper (300m) limits of the spheres of influence as provided in the guidelines (c.f. section 5.2) deemed unrealistic, an optimal sphere of influence is considered in the ensuing sections, based merely on visual observation and demarcation. This entails the demarcation of a sphere of

influence by identifying minimal overlapping of market areas, while a maximum number of households are included in the market area. This may ensure more perfect competition and enhance the viability and feasibility of the spaza shops.

6.6.1 Urban case study areas

A map is included for each case study area to illustrate the optimal visual sphere of influence for the existing spaza shops in the case study areas, informed by an evaluation of the lower (100m) and upper (300m) limits of the spheres of influence as illustrated in the preceding section. Therefore, in terms of the urban case study areas, an optimal visual sphere of influence is elucidated for Jan Kempdorp, Ikageng and Kanana, respectively.

6.6.1.1 Jan Kempdorp

Jan Kempdorp only comprises spaza shops in Valspan, a low-income settlement adjacent to the middle to higher-income areas, where formal retail facilities are available. Therefore, a 100m sphere of influence is considered the optimal sphere of influence based on visual characteristics, observations and demarcation of the Valspan settlement. Map 6-45 illustrates the 100m optimal visual sphere of influence for Valspan, Jan Kempdorp.

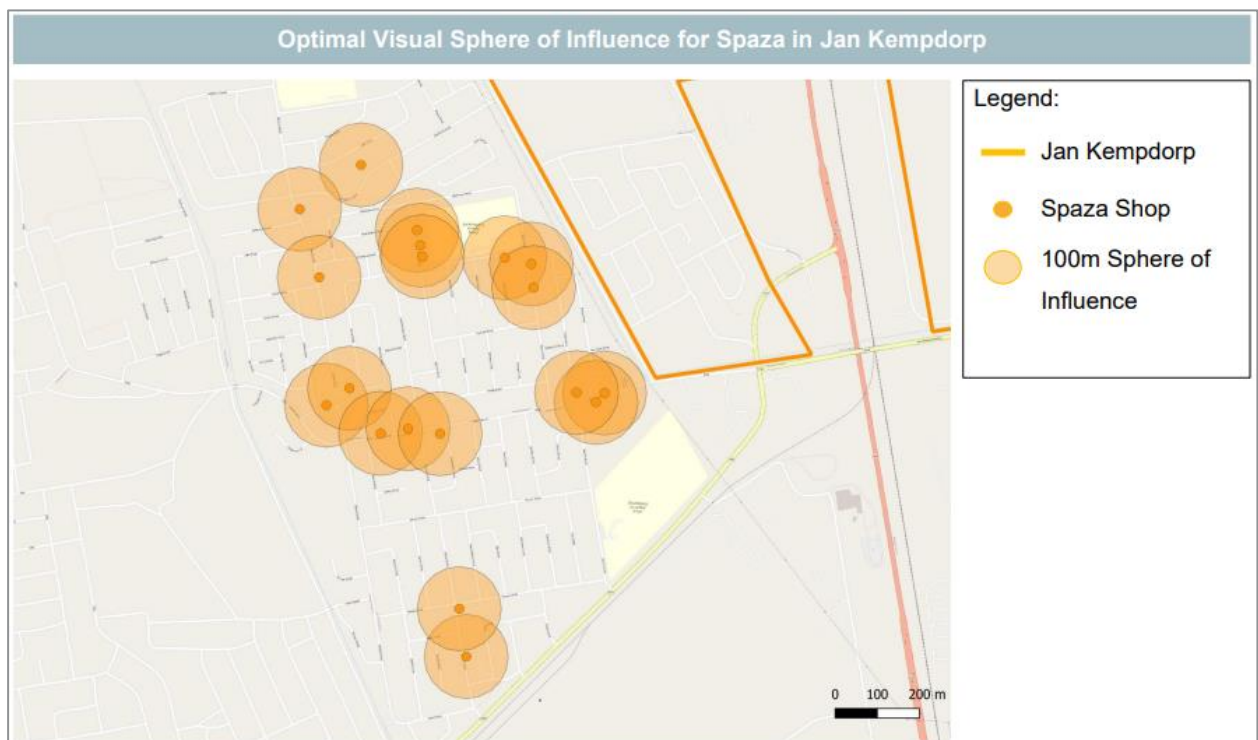


Figure 6-45: Optimal Visual Sphere of Influence for Spaza Shops in Jan Kempdorp

Source: Own Compilation using QGIS (2022)

In Figure 6-45, it may be observed that the existing spaza shops are situated in close proximity to one another, resulting in overlapping market areas. The disadvantages of these overlapping

market areas may, nonetheless, be outweighed by the agglomeration advantages gained through the clustering of spaza shops. With a 100m sphere of influence being visually a more realistic approach for Valspan, Jan Kempdorp, it is evident that households have easy walkable access to spaza shops, ensuring that the spaza shops serve most households in the area. Therefore, a 100m sphere of influence may be the optimal sphere of influence for Jan Kempdorp, only based on visual characteristics.

6.6.1.2 Ikageng

Ikageng mostly comprises spaza shops along the main roads in the settlement, with formal retail centres also available in the area, as Potchefstroom is located to the east. Due to the substantial size of Ikageng, a 100m sphere of influence is considered the optimal sphere of influence based on visual characteristics. Map 6-46 illustrates the 100m optimal visual sphere of influence for Ikageng.

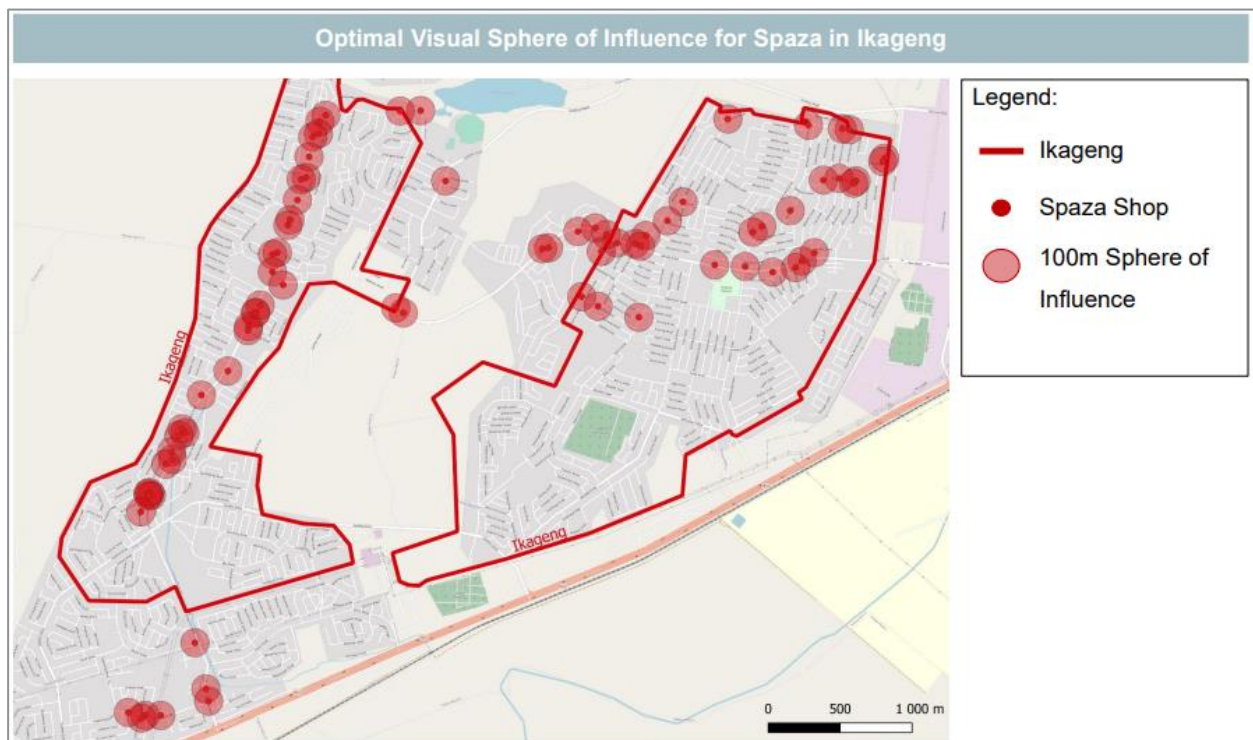


Figure 6-46: Optimal Visual Sphere of Influence for Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-46 indicates that the existing spaza shops are situated close to one another, again resulting in the market areas to overlap. The spaza shops are also mainly located on the main roads in Ikageng, meaning that substantial parts of the settlement do not have direct, walkable access to spaza shops. However, Ikageng also comprises formal retail centres, while Potchefstroom is located to the east of the low-income settlement, providing extensive formal retail facilities. With a 100m sphere of influence being visually a more realistic approach for

Ikageng, it is evident that most households have easily walkable access to the spaza shops, ensuring the spaza shops serve a substantial number of households in the area. In the case of applying a sphere of influence larger than 100m, an immense overlapping of the spaza shops' market areas is prevalent, indicating an over-competitive market, resulting in a loss of viability and feasibility. Therefore, a 100m sphere of influence may be the optimal sphere of influence for Ikageng, only based on visual characteristics.

6.6.1.3 Kanana

The spaza shops in Kanana are well distributed throughout the settlement. Cape Town and surrounding formal settlements are also located near Kanana, indicating the presence of formal retail facilities in the surrounding area. Considering this, Kanana is $\pm 0.2\text{km}^2$ in size, being one of the smallest case study areas in this specific study. Therefore, a 50m sphere of influence is considered the optimal sphere of influence based on visual characteristics. Map 6-47 illustrates Kanana's 50m optimal visual sphere of influence.

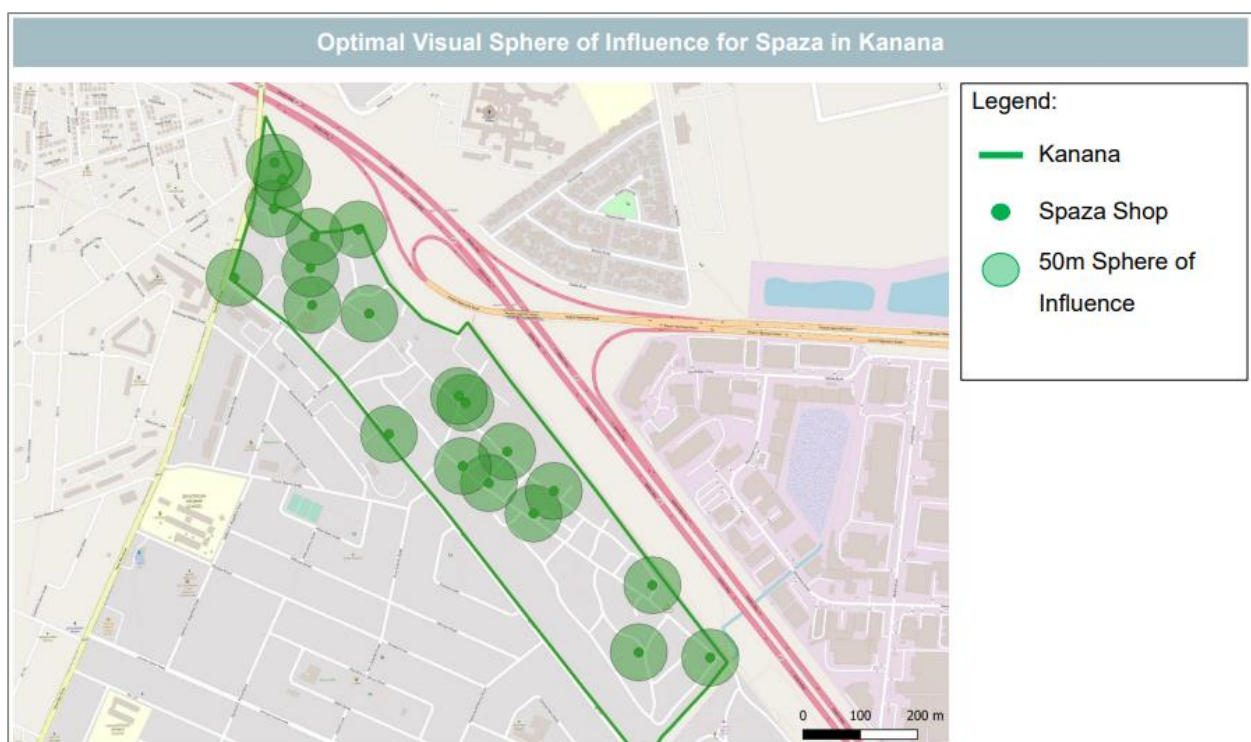


Figure 6-47: Optimal Visual Sphere of Influence for Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

From Figure 6-47, it is apparent that the existing spaza shops in Kanana are situated in close proximity to each other, meaning that the market areas may overlap, even with a small 50m sphere of influence. With a 50m sphere of influence being visually a more realistic approach for Kanana, it is evident that households throughout the settlement have easily walkable access to spaza shops, ensuring that the spaza shops serve most households. Therefore, a 50m sphere of

influence may be the optimal sphere of influence for Kanana, merely based on visual characteristics.

6.6.2 Rural case study areas

A map for each case study area is also included for the rural case study areas to illustrate the optimal visual sphere of influence for the spaza shops in the case study areas. Therefore, an optimal visual sphere of influence is determined for Agisanang, Misgund and Ganyesa, respectively.

6.6.2.1 Agisanang

The spaza shops in Agisanang are well distributed throughout the settlement. However, no formal urban settlements are located near Agisanang; therefore, the residents mostly depend on spaza shops for retail purposes. Considering this, Agisanang is $\pm 2\text{km}^2$ in size, therefore, a 75m sphere of influence is considered the optimal sphere of influence based on visual characteristics. Map 6-48 illustrates the 75m optimal visual sphere of influence for Agisanang.

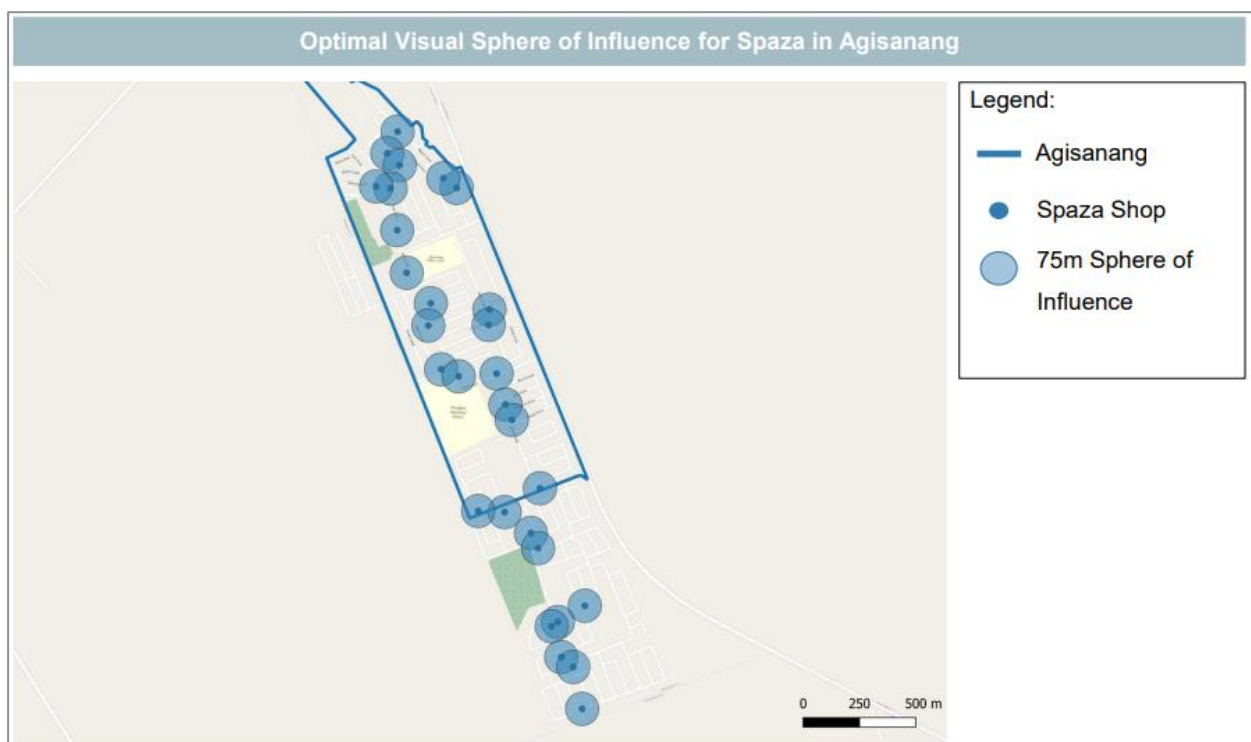


Figure 6-48: Optimal Visual Sphere of Influence for Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

Figure 6-48, displays that the existing spaza shops in Agisanang are well distributed, with some spaza shops situated near one another. Therefore, some overlapping of market areas may still be evident. With a 75m sphere of influence for spaza shops being visually a more realistic approach for Agisanang, it is evident that some households may not be included. However, these

households have easily walkable access to the spaza shops, due to the small size of the settlement, ensuring that the spaza shops serve most households. Therefore, a 75m sphere of influence may be the optimal sphere of influence for Agisanang, only based on visual characteristics.

6.6.2.2 Misgund

Although Misgund only comprises four spaza shops, the spaza shops are well distributed throughout the settlement. However, no formal urban settlements are located near Misgund; therefore, the residents mostly depend on spaza shops for retail purposes. Considering this, Misgund is $\pm 0.2\text{km}^2$ in size, being one of the smallest case study areas in this specific study. However, with only four spaza shops established, a 70m sphere of influence is considered the optimal sphere of influence based on visual characteristics. Map 6-49 illustrates the 70m optimal visual sphere of influence for Misgund.

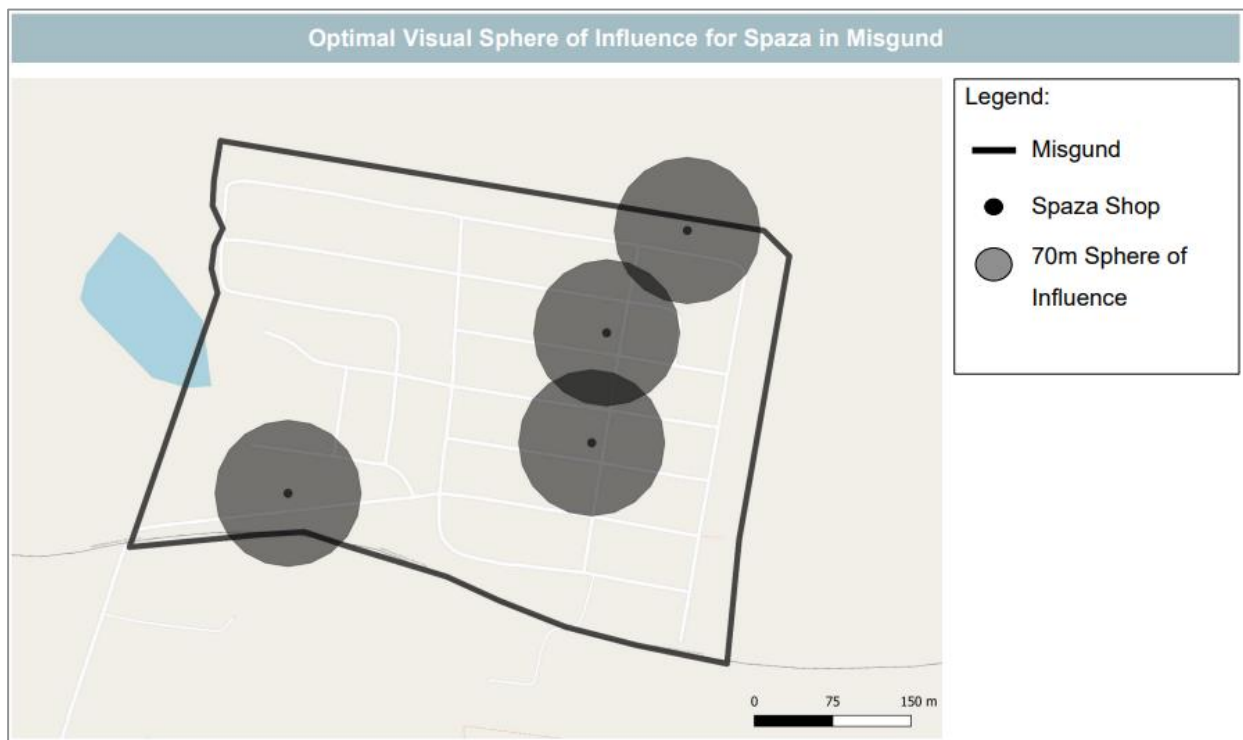


Figure 6-49: Optimal Visual Sphere of Influence for Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

Figure 6-49, portrays that the existing spaza shops in Misgund are well distributed, considering merely four spaza shops are established. However, no spaza shop is present in the northwestern part of the settlement. Considering this, a 70m sphere of influence may be visually a more realistic approach for spatial planning in Misgund. While an overlap of the market areas is apparent, it is evident that some households may not be included in a smaller sphere of influence. Therefore, a

70m sphere of influence may be the optimal sphere of influence for Misgund, only based on visual characteristics.

6.6.2.3 Ganyesa

Ganyesa mainly comprises spaza shops located on the main road in the settlement, with formal retail centres also available in the area. Due to its location on traditional land, Ganyesa may be considered an outlier in this study, as it is deemed a rural case study area, but still displays urban characteristics due to some formal retail facilities that are prevalent in the area. Ganyesa is primarily regulated under traditional authority while not being located near any urban settlements. Therefore, considering the unique spatial characteristics of Ganyesa as well as the size of the settlement, a 150m sphere of influence is considered the optimal sphere of influence based on visual characteristics. Map 6-50 illustrates the 150m optimal visual sphere of influence for Ganyesa.

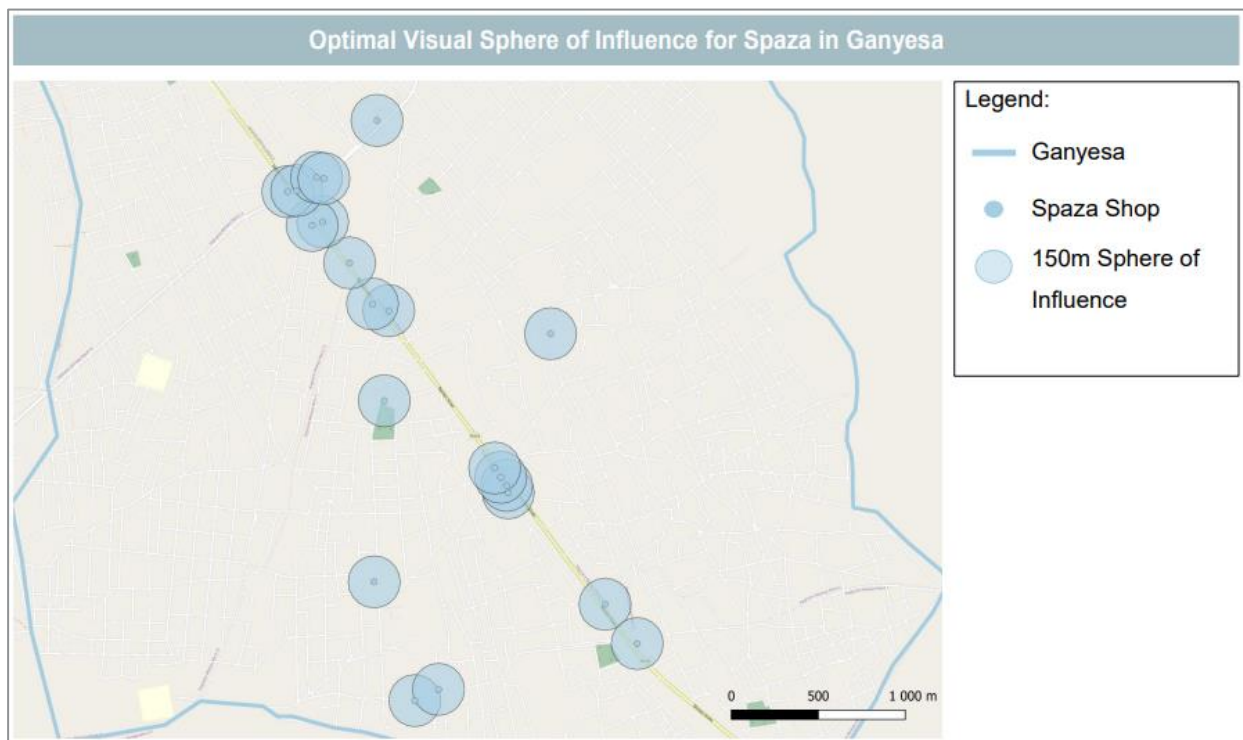


Figure 6-50: Optimal Visual Sphere of Influence for Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

Figure 6-50 indicates that the existing spaza shops are located close to each other, ensuring that the market areas will overlap. The spaza shops are also primarily located along the main road in Ganyesa, ensuring that a large part of the settlement does not have direct access to spaza shops. However, as mentioned above, Ganyesa also comprises formal retail centres, providing formal retail supply on top of the supply already provided by spaza shops. With a 150m sphere of influence being visually a more realistic approach for Ganyesa, it is evident that some households

are still excluded from the sphere of influence. This may be explained by the availability of formal retail supply in the area, providing alternative accessible options to households. The majority of the households do, however, have easily walkable access to spaza shops, ensuring that the spaza shops serve a substantial number of households in the area. The settlement is also large in comparison to the other case study areas, especially the rural case study areas, requiring a larger sphere of influence. However, an immense overlap of the spaza shops with a sphere of influence larger than 150m is prevalent, indicating a loss of viability and feasibility. Therefore, a 150m sphere of influence may be the optimal sphere of influence for Ganyesa, only based on visual characteristics.

In order to verify the results of the preceding steps in the case study analysis and with the aim to determine a more accurate sphere of influence for the case study areas, an optimal sphere of influence is calculated in the subsequent section by using an existing mathematical formula.

6.7 Calculated optimal spheres of influence for the different case study areas

As a final step in the case study analysis, to verify the preceding results and the visual demarcation of the optimal spheres of influence for spaza shops, a more accurate optimal sphere of influence for the respective case study areas may be calculated. For this, a specific calculation is used in accordance with the Central Place Theory (c.f. section 4.4) in order to determine the sphere of influence between two retail facilities (i.e., City A and City B). The formula used in these calculations is as follows (Friske & Choi, 2013:4):

$$\text{Sphere of Influence A} = \frac{\text{Distance A} - \text{B}}{1 + \sqrt{\frac{\text{Population of B}}{\text{Population of A}}}}$$

For this specific study, the formula was adapted to focus on the sphere of influence between spaza shops, rather than settlements. Therefore for the variables in the formula, the distance between two spaza shops was used (distance A-B), together with the number of households located in respectively a 100m and 300m radius from the specific spaza shops (Population of A and B). The utilisation of respectively a 100m and 300m radius is due to this being the provided criteria as captured in existing directives (c.f. section 5.2). It was also determined that the calculated sphere of influence would remain standardised with any chosen radius, as the ratio of the household totals (Population of A and B) will remain the same.

In calculating the sphere of influence, three spaza shops for each case study area was randomly selected. The distances between these three spaza shops were determined, while the number of households in respectively a 100m and 300m radius was counted. The optimal sphere of influence was then calculated using the abovementioned formula. The three randomly selected spaza

shops for respectively the urban and rural case study areas are mapped to elucidate the calculation procedures applied.

6.7.1 Urban case study areas

For the urban case study areas, a map for each case study area is included to illustrate the three selected spaza shops. These selected spaza shops were used to calculate the optimal sphere of influence for the urban case study areas. Therefore, the three randomly selected spaza shops are depicted for Jan Kempdorp, Ikageng and Kanana, respectively.

6.7.1.1 Jan Kempdorp

Figure 6-51 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Valspan, Jan Kempdorp.

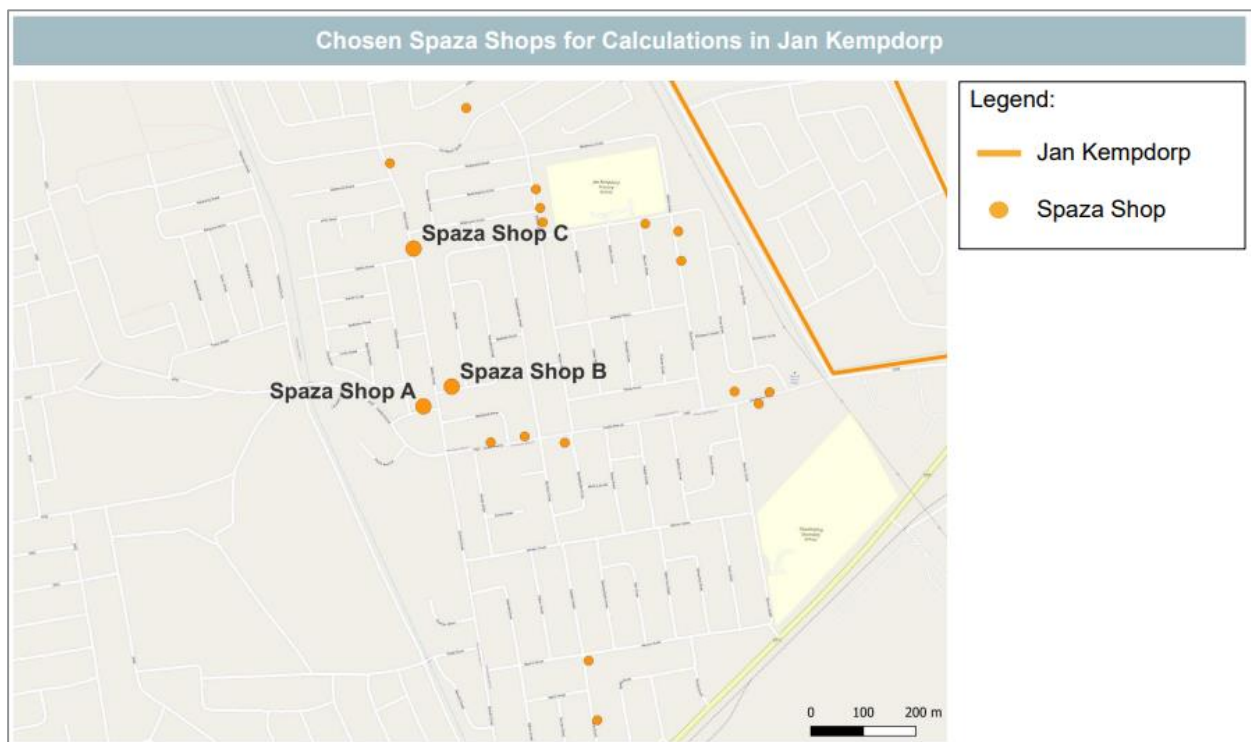


Figure 6-51: Three Selected Spaza Shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

It is evident from Figure 6-51 that three random spaza shops were selected in order to calculate the optimal sphere of influence for the spaza shops in Valspan, Jan Kempdorp. These three spaza shops represent the reality of the spatial distribution of spaza shops in the area.

6.7.1.2 Ikageng

Figure 6-52 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Ikageng.

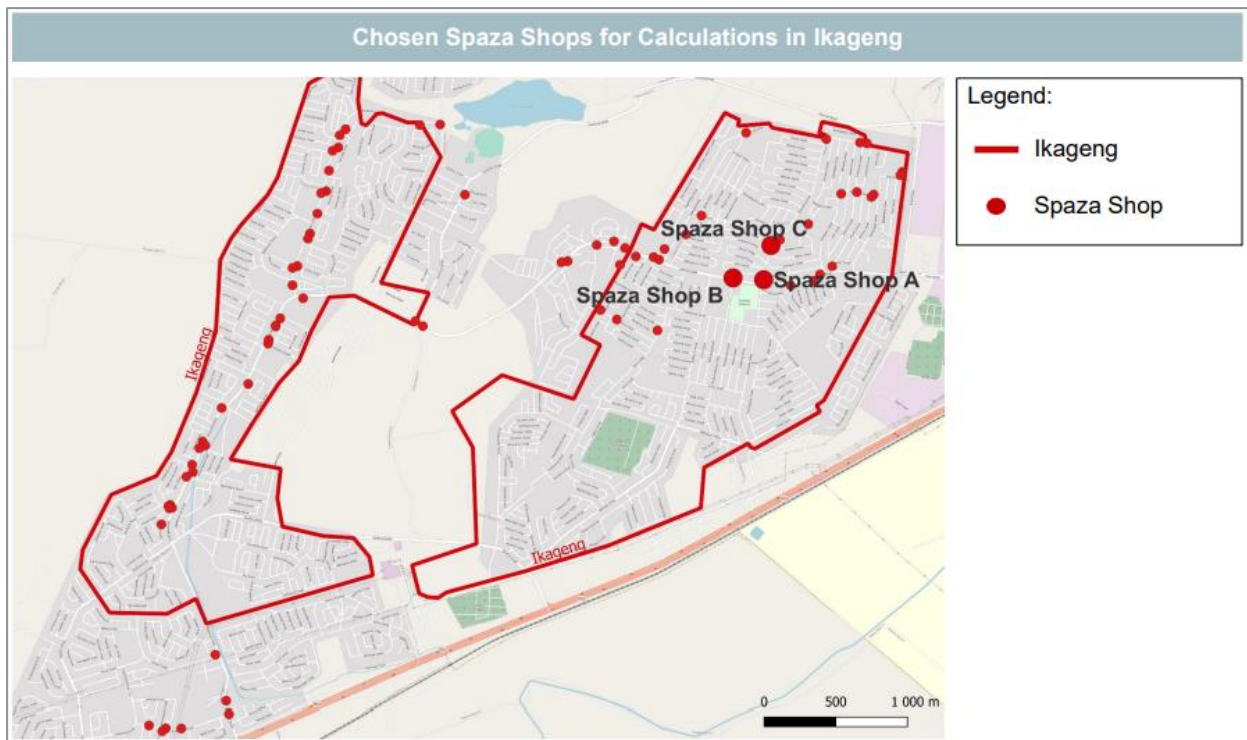


Figure 6-52: Three Selected Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-52 provides evidence of the three random spaza shops that were selected in order to calculate the optimal sphere of influence for the spaza shops in Ikageng. These three spaza shops represent the reality of the spatial distribution of spaza shops in the area.

6.7.1.3 Kanana

Figure 6-53 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Kanana.

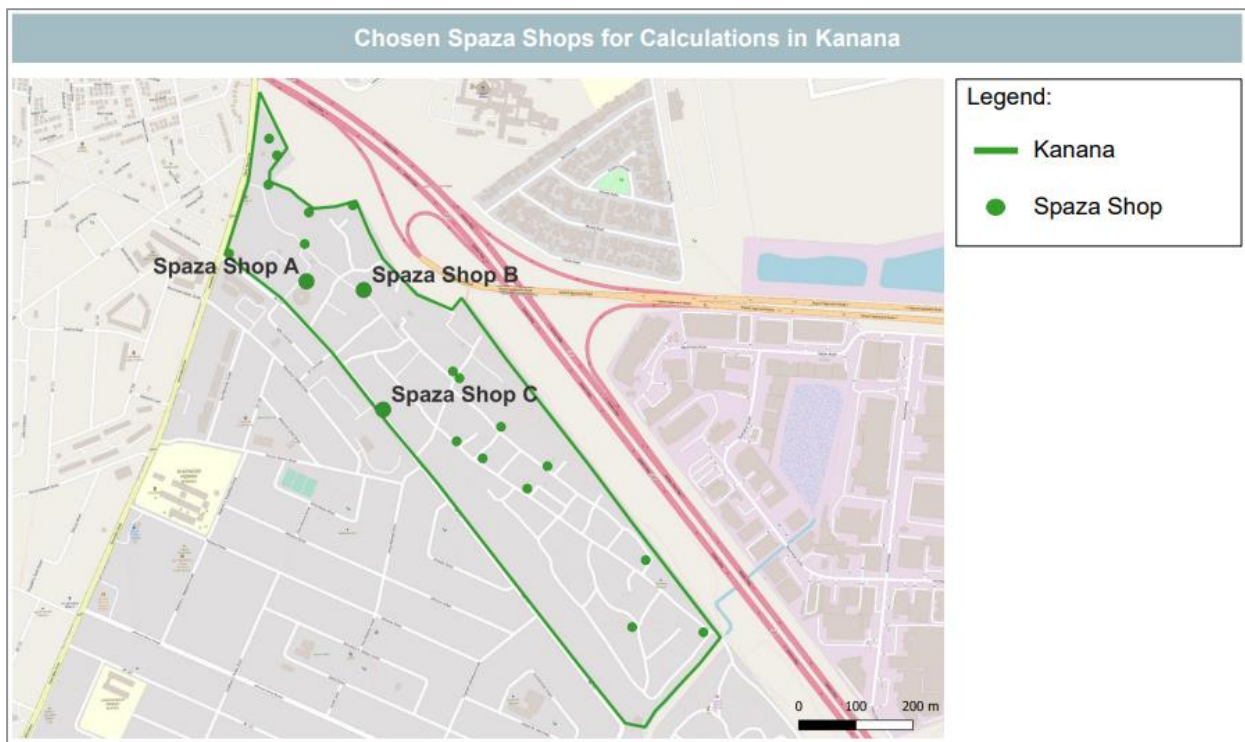


Figure 6-53: Three Selected Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

In Figure 6-53 it is may be observed that three random spaza shops wee selected in order to calculate the optimal sphere of influence for the spaza shops in Kanana. These three spaza shops also represent the reality of the spatial distribution of spaza shops in the area.

6.7.2 Rural case study areas

For the rural case study areas, a map for each case study area is included to illustrate the three selected spaza shops. In correspondence with the urban case study areas, these selected spaza shops were used to calculate the optimal sphere of influence for the rural case study areas. Therefore, the three randomly selected spaza shops are subsequently provided for Agisanang, Misgund and Ganyesa, respectively.

6.7.2.1 Agisanang

Figure 6-54 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Agisanang.

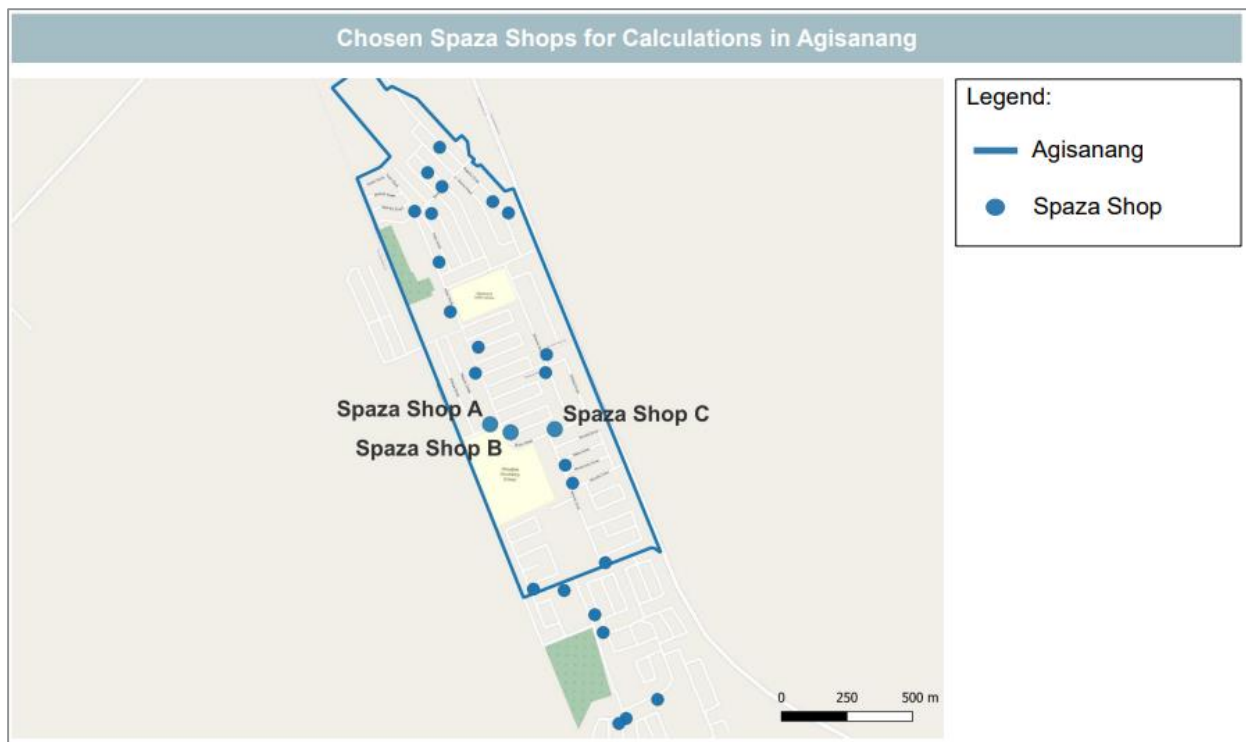


Figure 6-54: Three Selected Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

Figure 6-54 displays the three randomly selected spaza shops in order to calculate the optimal sphere of influence for the spaza shops in Agisanang. These three spaza shops represent the reality of the spatial distribution of spaza shops in the area.

6.7.2.2 Misgund

Figure 6-55 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Misgund.

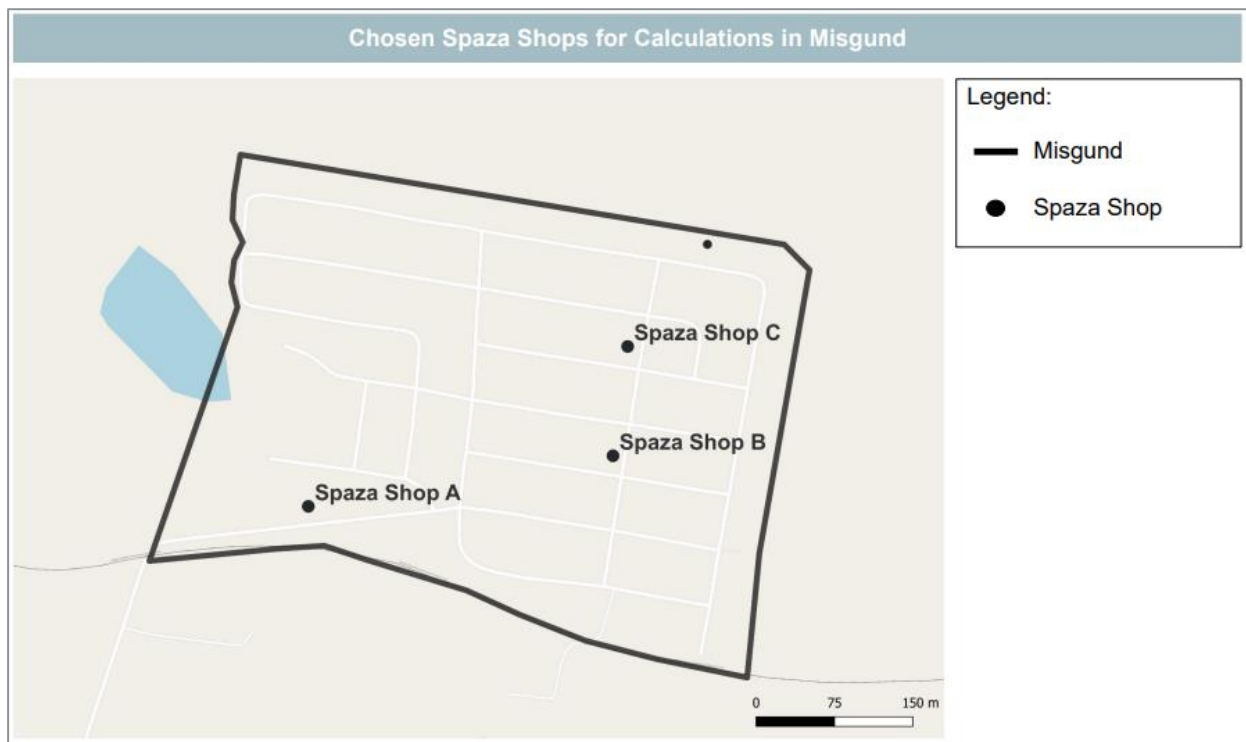


Figure 6-55: Three Selected Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

From Figure 6-55 it is prevalent that three random spaza shops were selected in order to calculate the optimal sphere of influence for the spaza shops in Misgund. These three spaza shops represent almost all of the established spaza shops in the settlement and therefore provide adequate evidence of the reality of the spatial distribution of spaza shops in the area.

6.7.2.3 Ganyesa

Figure 6-56 illustrates the three randomly selected spaza shops for calculating the optimal sphere of influence in Ganyesa.

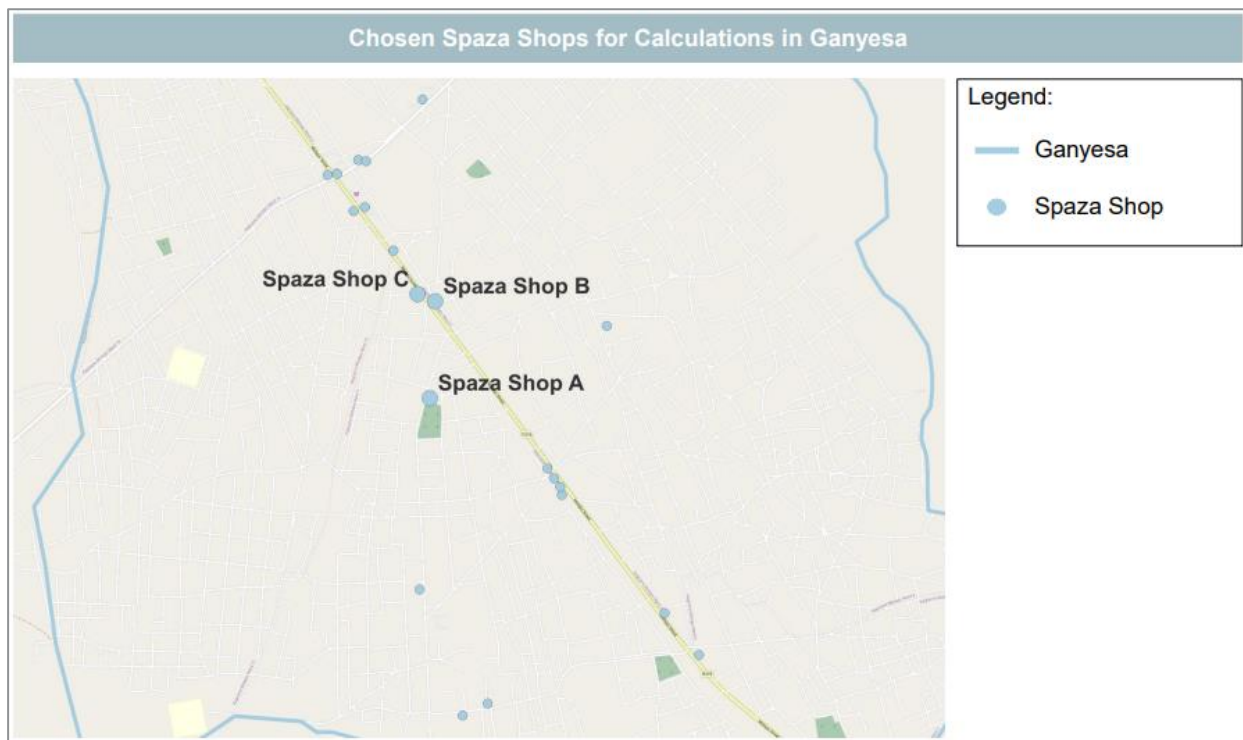


Figure 6-56: Three Selected Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

In Figure 6-56 it is evident that three random spaza shops were selected to calculate the optimal sphere of influence for the spaza shops in Ganyesa. These three spaza shops elucidate the reality of the spatial distribution of spaza shops in the area.

As mentioned previously, to determine the “population” variable in the formula, the number of households was counted in a 100m and a 300m radius from the selected spaza shops, as it is based on the current guidelines and directives. However, due to the equal ratio of the number of households, the sphere of influence is unaffected by the change in radius. This is due to the consistency in the density of the households surrounding the spaza shops in the settlements.

Isochrones were also used to elucidate the optimally calculated spheres of influence. This was applied due to the criticisms regarding the Central Place Theory. While the Central Place Theory is known for providing explanations for the spatial distribution and location of retail facilities, some studies have emphasised certain flaws and limitations in this theory, especially regarding the spatial structure and distribution of facilities as it is assumed to be uniform (Calciu & Salerno, 1997:4). Therefore, Pacione (2005:169) suggests that this theory is merely static, as it does not consider the continuous change in population, supply and demand, values of goods, the size of central places, transportation modes, as well as competition between facilities. The Central Place Theory also mainly focuses on the economic aspects of the theory and consequently developed a set of assumptions. This includes the assumption that the land in the study areas would be flat, with no impediments preventing the movement of residents (Briney, 2020). Considering these

criticism, isochrones are used to illustrate the calculated optimal spheres of influence, as QGIS consider the physical characteristics and geography of the area. Therefore, barriers impeding the movement of the residents (including roads, rivers, and boundaries) influence the demarcation of the isochrones and, subsequently, the spheres of influence, aligning theory with practice.

The calculated optimal spheres of influence are subsequently mapped in the ensuing sections, for the urban and rural low-income settlements respectively.

6.7.3 Urban case study areas

For the urban case study areas, a map for each case study area is included to illustrate the calculated optimal sphere of influence for the spaza shops in the respective low-income urban case study areas of Jan Kempdorp, Ikageng and Kanana.

6.7.3.1 Jan Kempdorp

In calculating the optimal sphere of influence for spaza shops in Valspan, Jan Kempdorp, it was determined that the average distance between the spaza shops is 214m. Further to this, the average number of households in a 100m radius is approximately 91, while the average number of households in a 300m radius is approximately 859. Therefore, by applying the mathematical formula, an optimal sphere of influence of 107m was calculated for the spaza shops in Valspan, Jan Kempdorp. Figure 6-57 illustrates the 107m calculated optimal sphere of influence for Valspan, Jan Kempdorp.

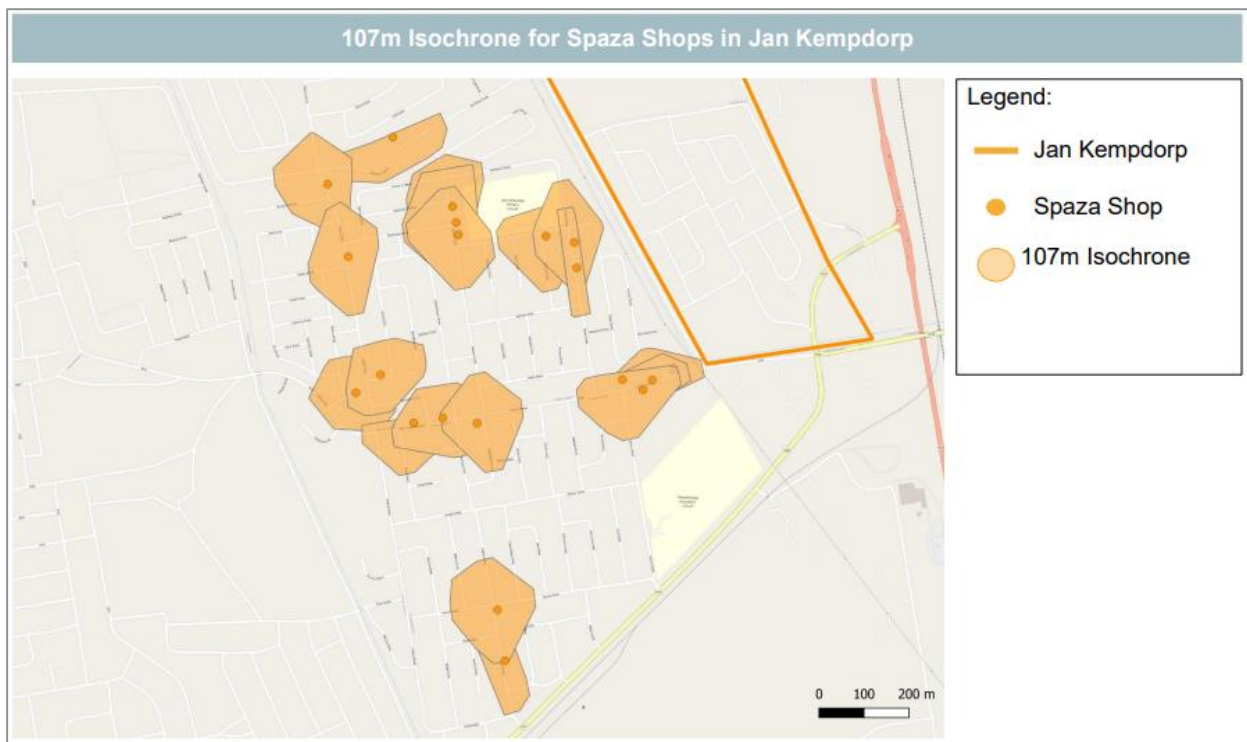


Figure 6-57: Calculated Optimal Sphere of Influence for Spaza Shops in Jan Kempdorp

Source: Own Compilation using QGIS (2022)

In Figure 6-57 it may well be observed that the existing spaza shops are situated near one another, indicating that the market areas will overlap. With a 107m sphere of influence being a realistic spatial distribution for the spaza shops in Valspan, Jan Kempdorp, it is evident that households have easily walkable access to the spaza shops, ensuring that the spaza shops serve most households in the area. The isochrone also incorporates the geography of the settlement. Therefore, a 107m sphere of influence may be the calculated optimal sphere of influence for Jan Kempdorp based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

6.7.3.2 Ikageng

In calculating the optimal sphere of influence for spaza shops in Ikageng, it was determined that the average distance between the spaza shops is 271m. Further to this, the average number of households in a 100m radius is approximately 173, while the average number of households in a 300m radius is approximately 841. Therefore, an optimal sphere of influence of 135m was calculated through applying the mathematical formula. Figure 6-58 illustrates the 135m calculated optimal sphere of influence for Ikageng.

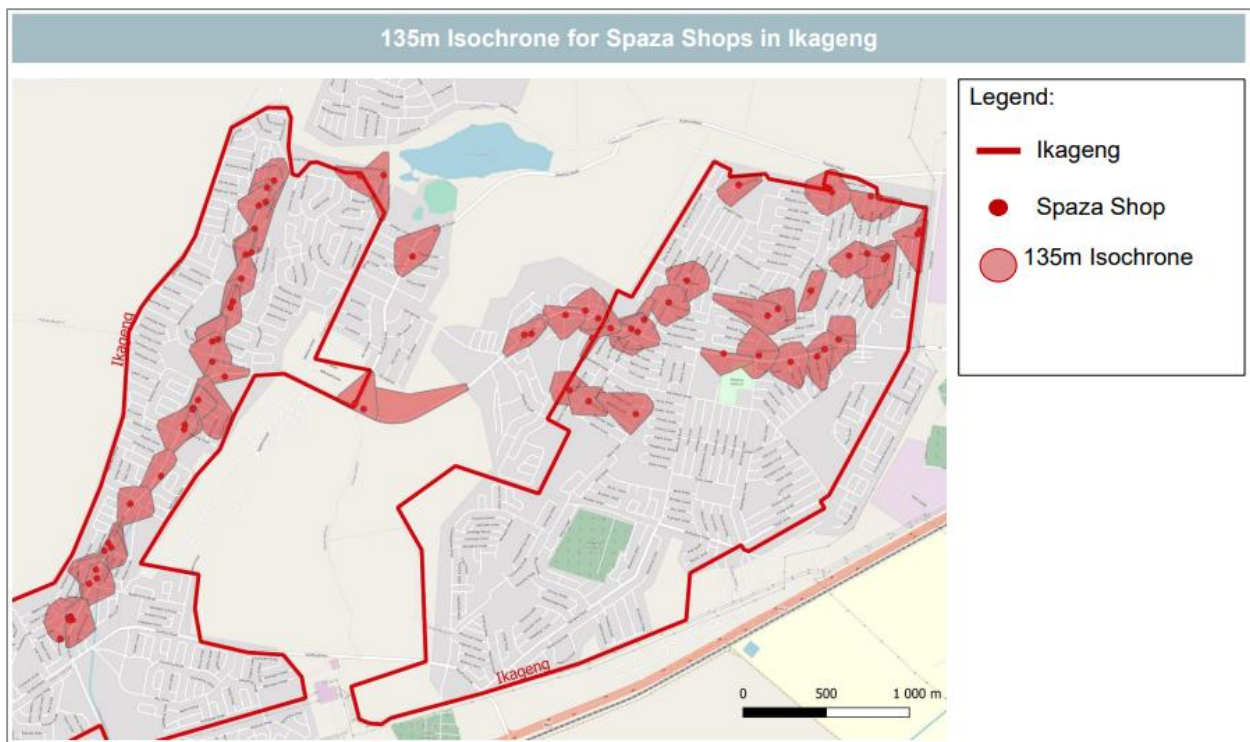


Figure 6-58: Calculated Optimal Sphere of Influence for Spaza Shops in Ikageng

Source: Own Compilation using QGIS (2022)

Figure 6-58 illustrates that the existing spaza shops are located close to each other, signalling that the market areas will overlap to a certain extent. With a 135m sphere of influence being a realistic spatial distribution for the spaza shops in Ikageng, it is evident that households have easily walkable access to spaza shops, ensuring that the spaza shops still serve a substantial number of households in the area. The isochrone also incorporates the geography of the settlement. Therefore, a 135m sphere of influence may be the calculated optimal sphere of influence for Ikageng based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

6.7.3.3 Kanana

In calculating the optimal sphere of influence for spaza shops in Kanana, it was determined that the average distance between the spaza shops is 192m. Further to this, the average number of households in a 100m radius is approximately 479, while the average number of households in a 300m radius is approximately 3 454. Therefore, an optimal sphere of influence of 96m was calculated. Figure 6-59 illustrates the 96m calculated optimal sphere of influence for Kanana.

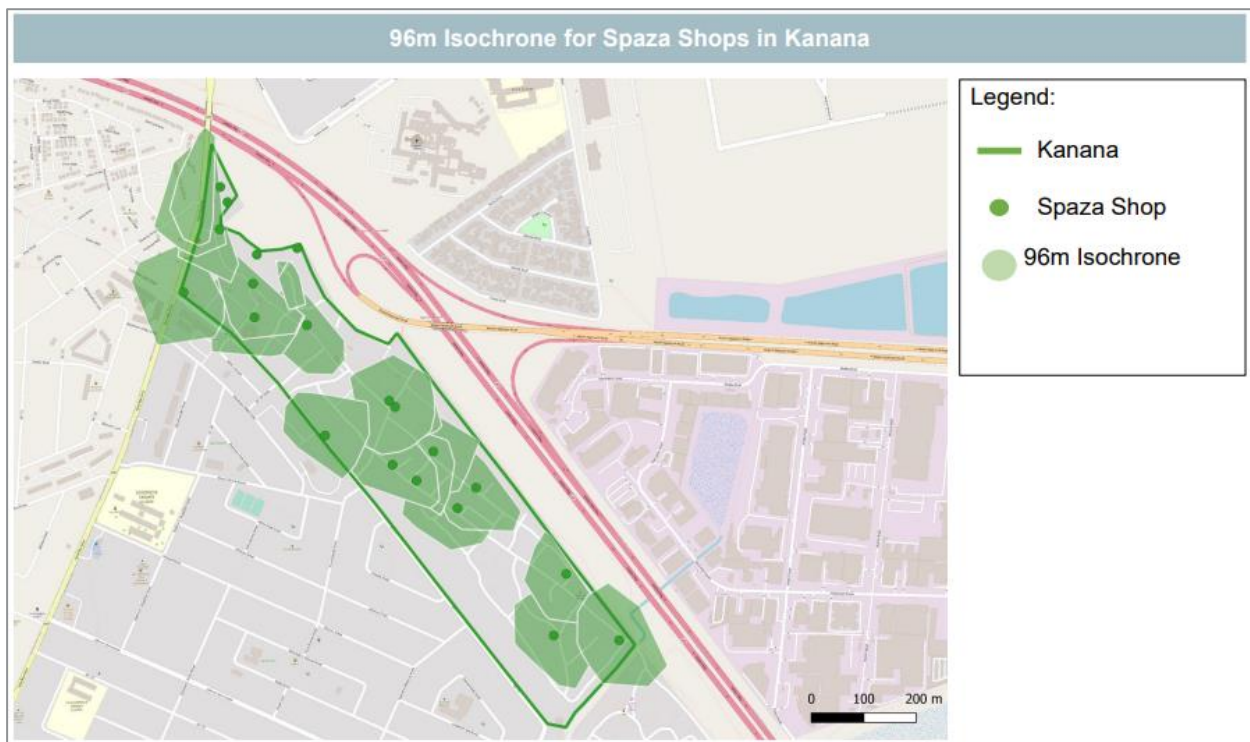


Figure 6-59: Calculated Optimal Sphere of Influence for Spaza Shops in Kanana

Source: Own Compilation using QGIS (2022)

From Figure 6-59, it may be deduced that the existing spaza shops are situated in close proximity, ensuring that the market areas will overlap. With a 96m sphere of influence being a realistic demarcation for the spaza shops in Kanana, it is evident that households have easily walkable access to spaza shops, ensuring that the spaza shops serve most of the households in the area. The isochrone also incorporates the geography of the settlement. Therefore, a 96m sphere of influence may be the calculated optimal sphere of influence for Kanana based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

6.7.4 Rural case study areas

For the rural case study areas, as with the urban case study areas, a map for each case study area is included to illustrate the calculated optimal sphere of influence for the spaza shops in the low-income rural settlements of Agisanang, Misgund and Ganyesa, respectively.

6.7.4.1 Agisanang

In calculating the optimal sphere of influence for spaza shops in Agisanang, it was determined that the average distance between the spaza shops is 167m. Further to this, the average number of households in a 100m radius is approximately 56, while the average number of households in a 300m radius is approximately 551. Therefore, an optimal sphere of influence of 83m was

calculated by substituting the preceding values into the mathematical formula provided. Map 6-60 illustrates the 83m calculated optimal sphere of influence for Agisanang.

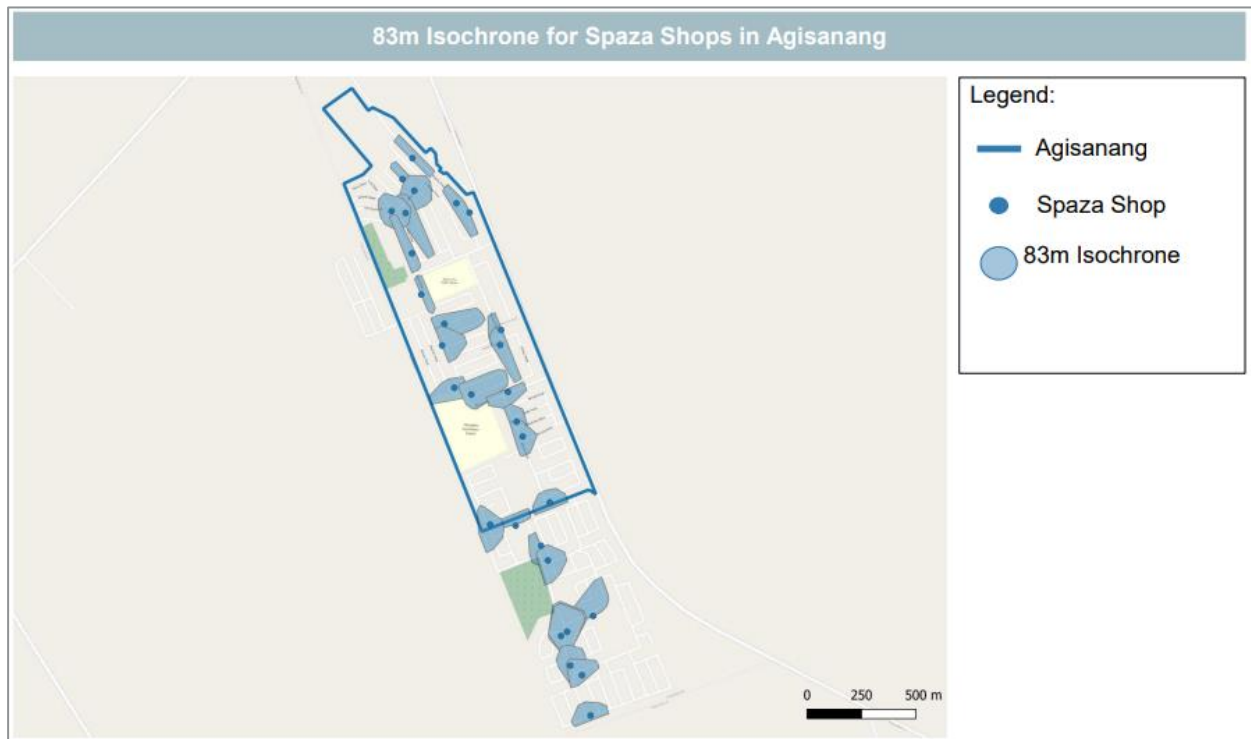


Figure 6-60: Calculated Optimal Sphere of Influence for Spaza Shops in Agisanang

Source: Own Compilation using QGIS (2022)

In Figure 6-60 it is evident that the existing spaza shops are situated near one another, implying that the market areas will overlap. With an 83m sphere of influence being a realistic spatial distribution for the spaza shops in Agisanang, it is evident that households have easily walkable access to spaza shops, ensuring that the spaza shops still serve most of the households in the area. The isochrone also incorporates the geography of the settlement. Therefore, a 83m sphere of influence may be the calculated optimal sphere of influence for Agisanang based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

6.7.4.2 Misgund

In calculating the optimal sphere of influence for spaza shops in Misgund, it was determined that the average distance between the spaza shops is 250m. Further to this, the average number of households in a 100m radius is approximately 69, while the average number of households in a 300m radius is approximately 450. Therefore, an optimal sphere of influence of 125m was calculated. Figure 6-61 illustrates the 125m calculated optimal sphere of influence for Misgund.

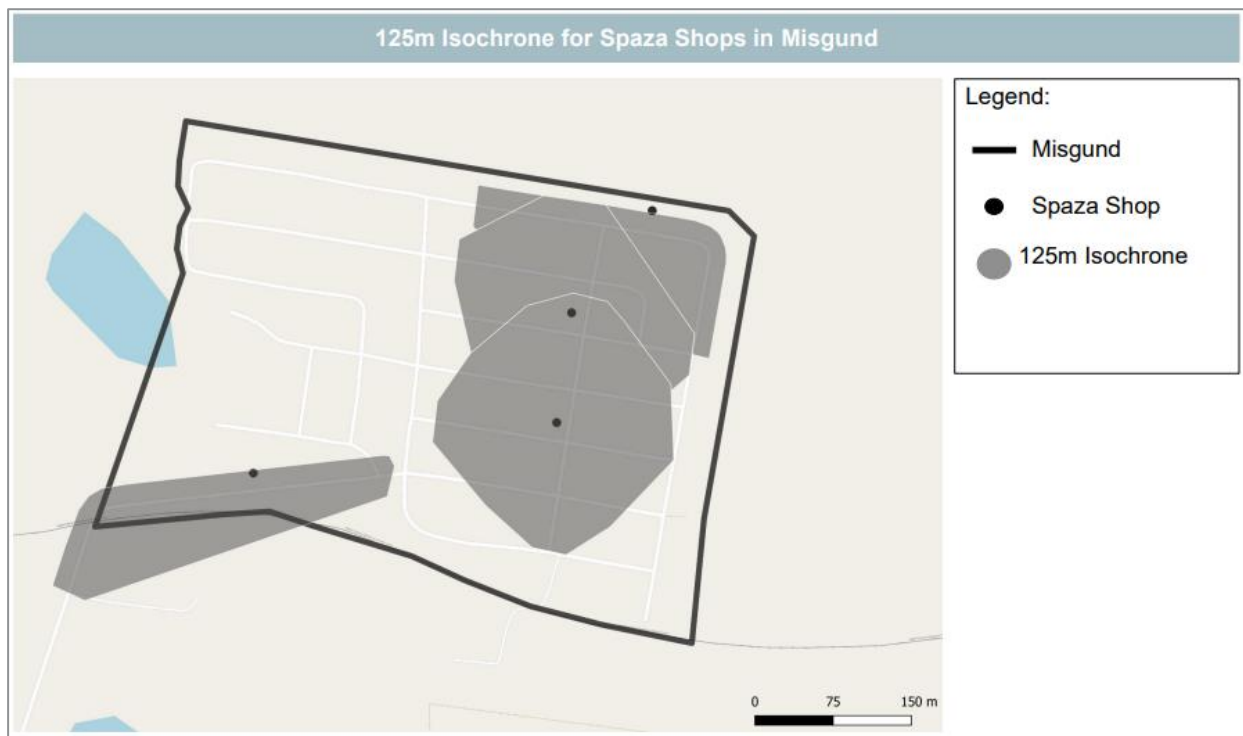


Figure 6-61: Calculated Optimal Sphere of Influence for Spaza Shops in Misgund

Source: Own Compilation using QGIS (2022)

It is evident from Figure 6-61 that the existing spaza shops are well distributed, however, the market areas still overlap. With a 125m sphere of influence being a realistic approach for the spatial distribution of spaza shops in Misgund, it is evident that households all have easily walkable access to spaza shops, ensuring that the spaza shops serve most of the households in the area. The isochrone also incorporates the geography of the settlement. Therefore, a 125m sphere of influence may be the calculated optimal sphere of influence for Misgund based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

6.7.4.3 Ganyesa

In calculating the optimal sphere of influence for spaza shops in Ganyesa, it was determined that the average distance between the spaza shops is 400m. Further to this, the average number of households in a 100m radius is approximately 23, while the average number of households in a 300m radius is approximately 104. Therefore, an optimal sphere of influence of 200m was calculated through applying the formula. Figure 6-62 illustrates the 200m calculated optimal sphere of influence for Ganyesa.

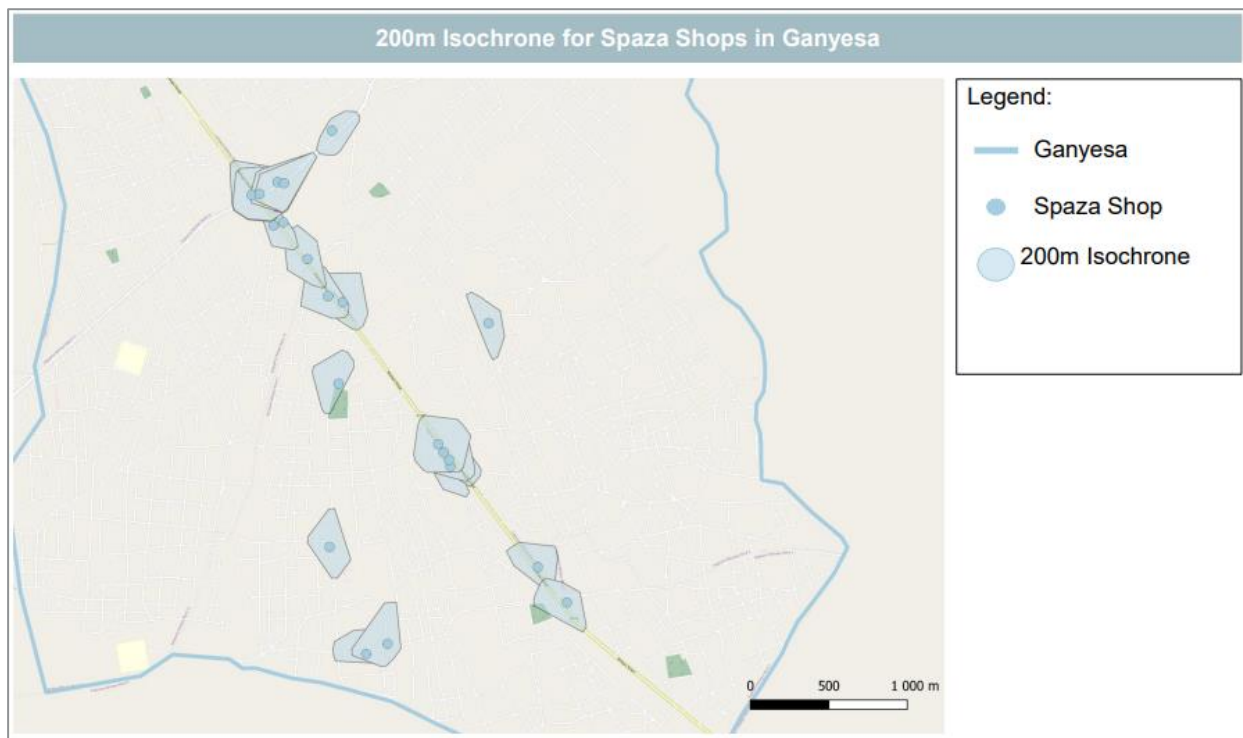


Figure 6-62: Calculated Optimal Sphere of Influence for Spaza Shops in Ganyesa

Source: Own Compilation using QGIS (2022)

Figure 6-62, displays that the existing spaza shops are situated near one another, resulting in an overlapping of the market areas. The spaza shops are also mainly located along the main road in Ganyesa, ensuring that a sizeable part of the settlement does not have direct, walkable access to spaza shops. However, as alluded to earlier, Ganyesa also comprises formal retail facilities, providing formal retail supply additional to the supply already provided by spaza shops. With a 200m sphere of influence being a realistic demarcation for spaza shops in Ganyesa, it is evident that some households are still excluded from the spheres of influence. This is substantiated through the availability of formal retail supply in the area. Most of the households still have easily walkable access to spaza shops, ensuring that the spaza shops serve a substantial number of households in the area. It should also be noted that this settlement is substantial in size compared to the other case study areas, especially the rural case study areas, signifying a larger sphere of influence for the spaza shops as the area to be served is much larger. Therefore, as previously mentioned, Ganyesa may be deemed as an outlier for the rural case study areas. Considering this, the isochrone also incorporates the geography of the settlement. Therefore, a 200m sphere of influence may be the calculated optimal sphere of influence for Ganyesa based on the distance between the spaza shops, the household population, the household density, and the geography of the settlement.

In order to provide substance for the main aim of this study in investigating the spatial distribution of spaza shops in urban versus rural low-income settlements, a comprehensive comparative

analysis is subsequently endeavoured. The following section, therefore, compares the visual and calculated spheres of influence for both the urban and rural case studies with existing guidelines indicating the spatial distribution of spaza shops within a sphere of influence of 100m-300m as well as a 5-minute walking time.

6.8 Findings: a comparison of the empirical results with current guidelines

It may be observed from the preceding section that the guidelines in the Classification and Hierarchy for Retail Facilities in South Africa for the spheres of influence of spaza shops in low-income settlements differ from the visual and calculated optimal spheres of influence. This is evident in both urban and rural case studies. In order to provide context and visual support for these findings, the different spheres of influence, as determined during the preceding steps of the case-study analysis, are visually compared in this section.

6.8.1 Urban case study areas

The visual and calculated optimal spheres of influence for the existing spaza shops in the three urban case studies are compared to the guidelines provided in the literature study (c.f. section 5.2) in this section. Therefore, Figure 6-63 to Figure 6-65 provide a visual comparison of the visual and calculated optimal spheres of influence, a 5-minute walking time isochrone as well as the 100m and 300m radiuses as determined by the current guidelines for the spheres of influence of spaza shops in respectively Jan Kempdorp, Ikageng and Kanana. Firstly Figure 6-63 provides a comparison of the various spheres of influence of spaza shops in Valspan, Jan Kempdorp.

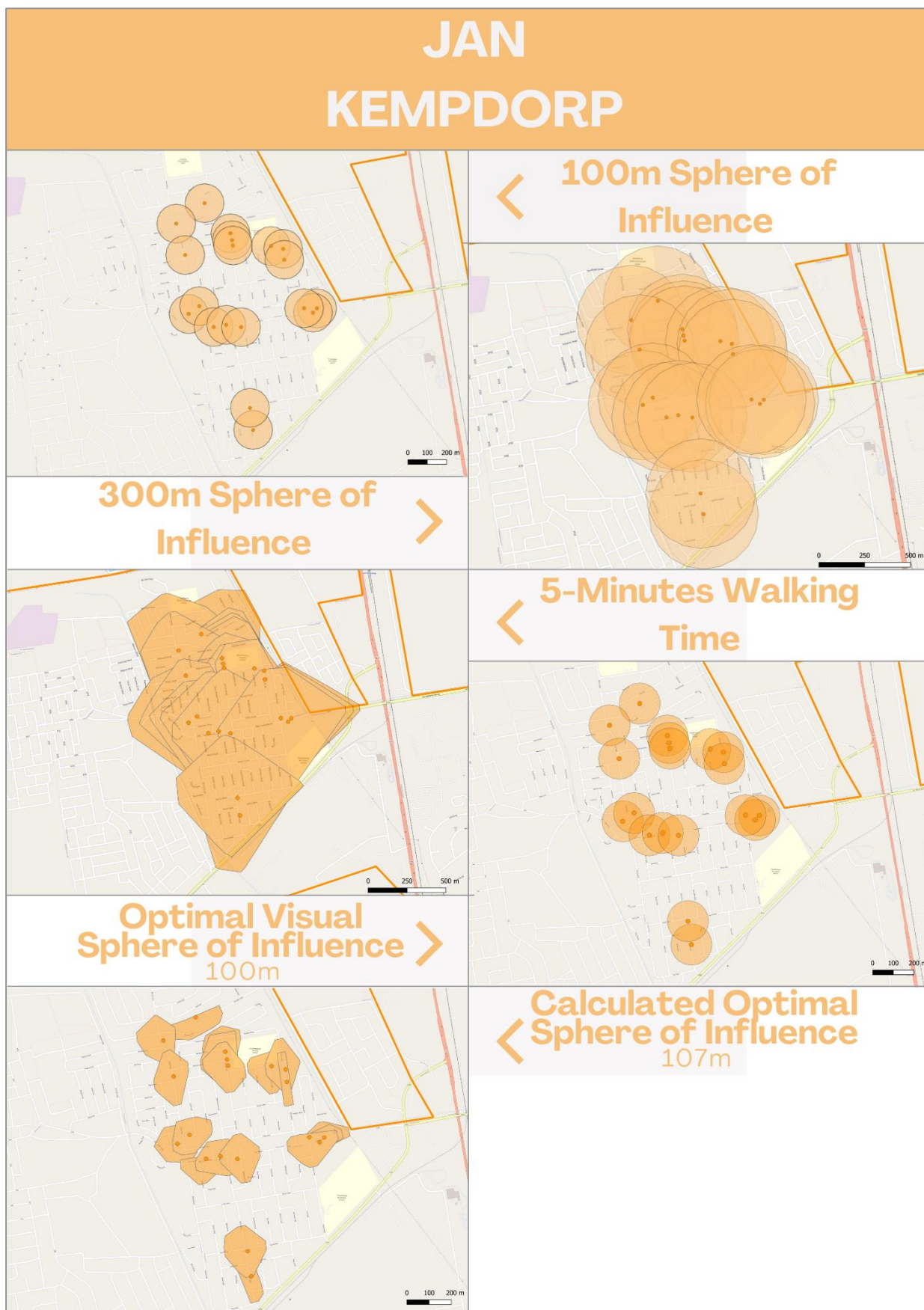


Figure 6-63: Comparison of Different Spheres of Influence for spaza shops in Valspan, Jan Kempdorp

Source: Own Compilation using QGIS (2022)

Figure 6-63 elucidates that the visual optimal sphere of influence correlates with the calculated sphere of influence, indicating an optimal sphere of influence of between 100m - 110m. It is also evident that the guidelines of a 300m sphere of influence as well as a 5-minute walking time is not optimal for Jan Kempdorp specifically.

Figure 6-64 subsequently compares the various spheres of influence for spaza shops in Ikageng.

IKAGENG

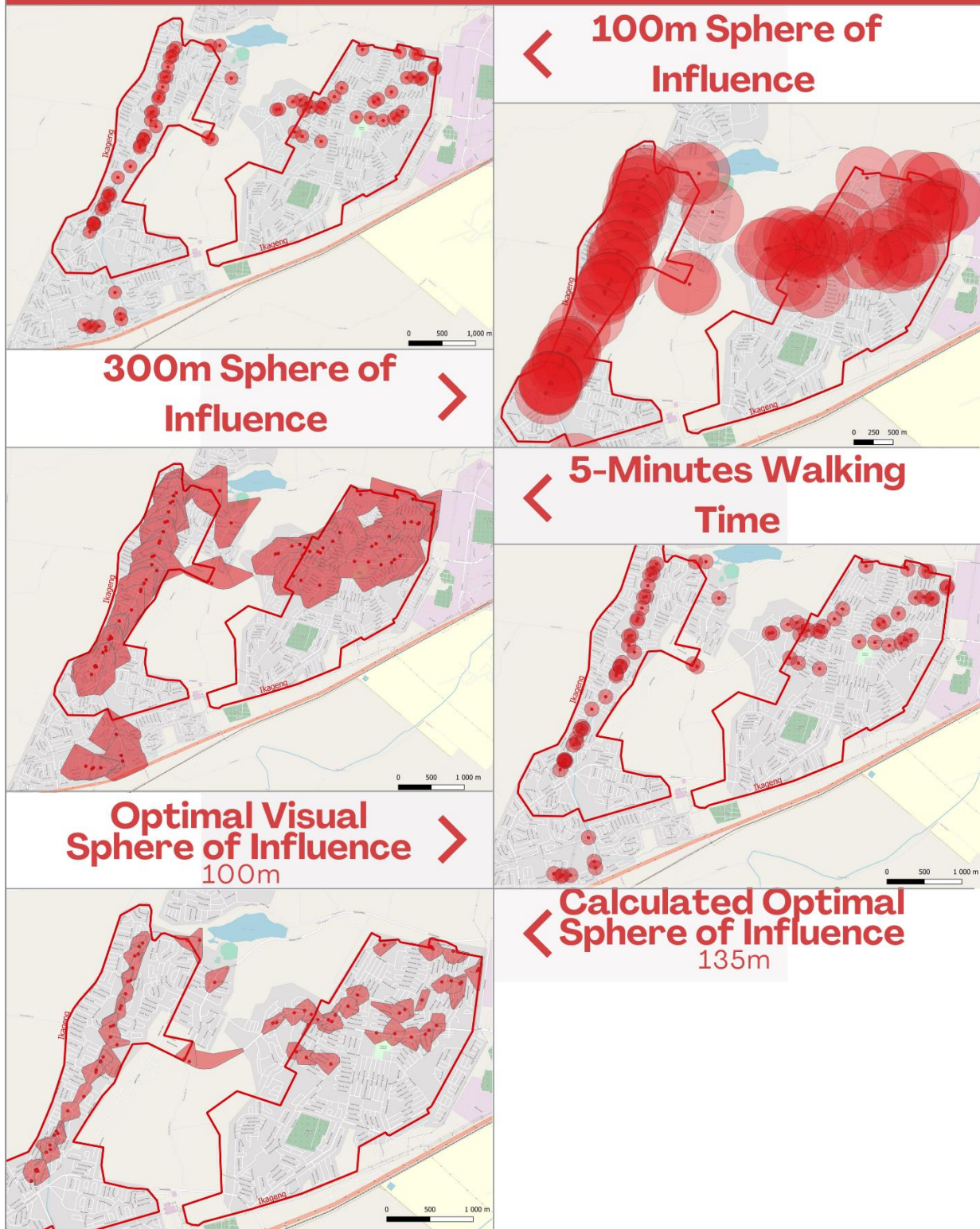


Figure 6-64: Comparison of Different Spheres of Influence for spaza shops in Ikageng

Source: Own Compilation using QGIS (2022)

In Figure 6-64 it is evident that an optimal sphere of influence for Ikageng may be between 100m and 140m. It may also be concluded that a 300m sphere of influence as well as a 5-minute walking time may not be ideal due to some overlapping spheres of influence. It is important to note that Ikageng encompasses formal as well as informal economic activities. This dualistic economic nature of Ikageng may influence the optimal sphere of influence of spaza shops in the settlement.

Figure 6-65 provides a comparison of the various spheres of influence for existing spaza shops in Kanana.

KANANA

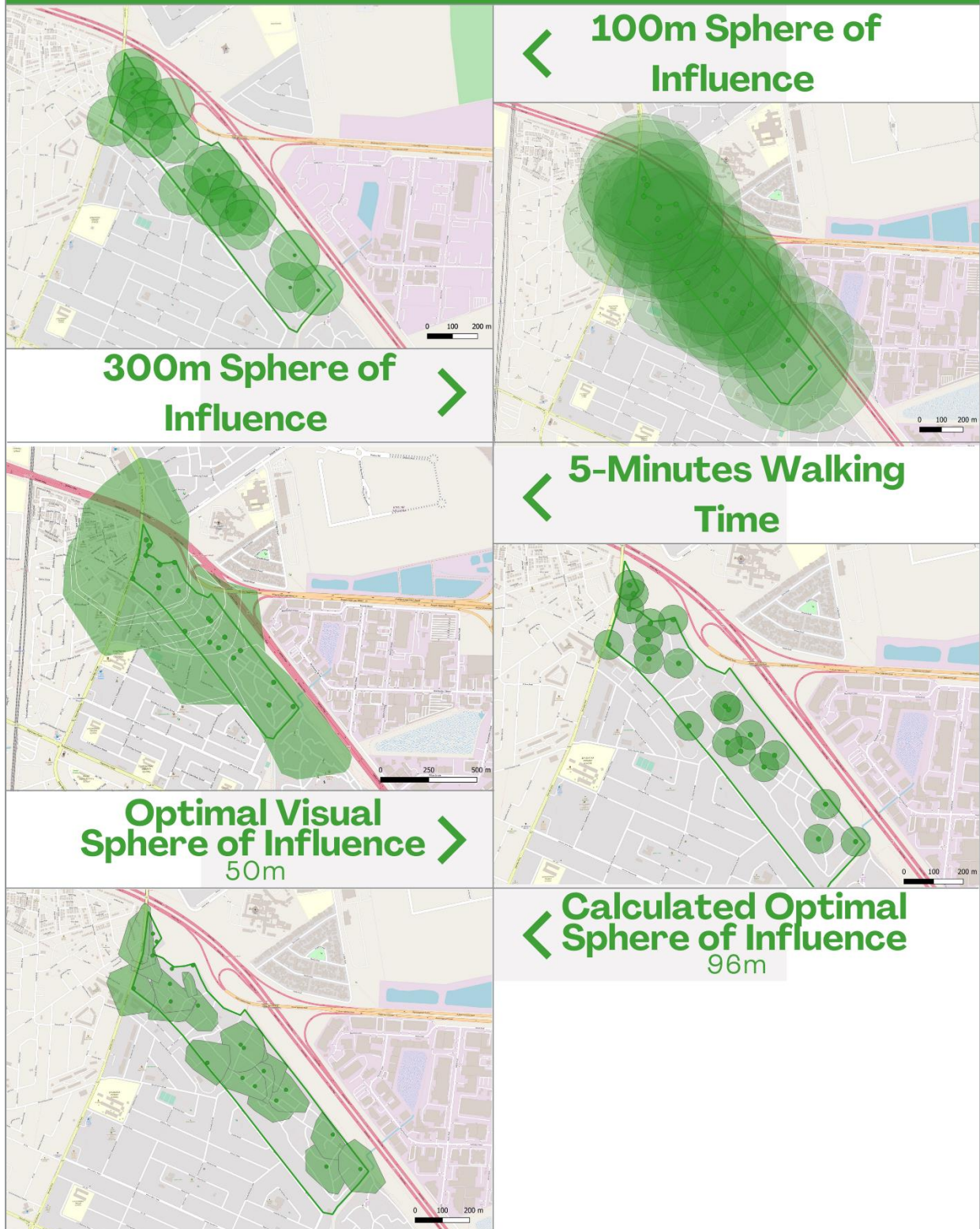


Figure 6-65: Comparison of Different Spheres of Influence for spaza shops in Kanana
Source: Own Compilation using QGIS (2022)

Figure 6-65 indicates that a 50m-100m sphere of influence may be optimal for Kanana, considering that Kanana is established on an exceedingly small area with a substantially high household density. It is, therefore, also evident that none of the provided guidelines is optimal for Kanana, as a 100-300m sphere of influence as well as a 5-minute walking time is too extensive for spaza shops in Kanana specifically.

In the preceding summative Figures, it is evident that the current guidelines for the Classification and Hierarchy of Retail Facilities in South Africa do not correlate efficiently with the reality of the spatial distribution of spaza shops in urban low-income settlements. This may primarily be attributed to an overlap of market areas, influencing the viability and feasibility of the spaza shops. Another factor that may influence the difference between the guidelines and the reality is the tendency towards perfect competition between retail facilities as described in the Central Place Theory, resulting in the establishment of the maximum number of retail facilities (spaza shops) that the competitive market would permit. A substantial number of households not currently served by the existing spaza shops, would therefore indicate imperfect competition, signalling that more spaza shops may be established in the specific urban low-income settlement. In view of this, the current guidelines as captured in the spatial planning directives, may be too broad to properly plan for and understand the reality of the spatial distribution of spaza shops.

6.8.2 Rural case study areas

The visual and calculated optimal spheres of influence for the existing spaza shops in the three rural case studies are compared to the guidelines provided in the literature study (c.f. section 5.2) in this section. Therefore, Figure 6-66 to Figure 6-68 provide a visual comparison of the visual and calculated optimal spheres of influence, a 5-minute walking time isochrone and the 100m and 300m radiuses as determined by the current guidelines for the spheres of influence of spaza shops in respectively Agisanang, Misgund and Ganyesa.

Figure 6-66 presents a comparison of the various spheres of influence for spaza shops in Agisanang.

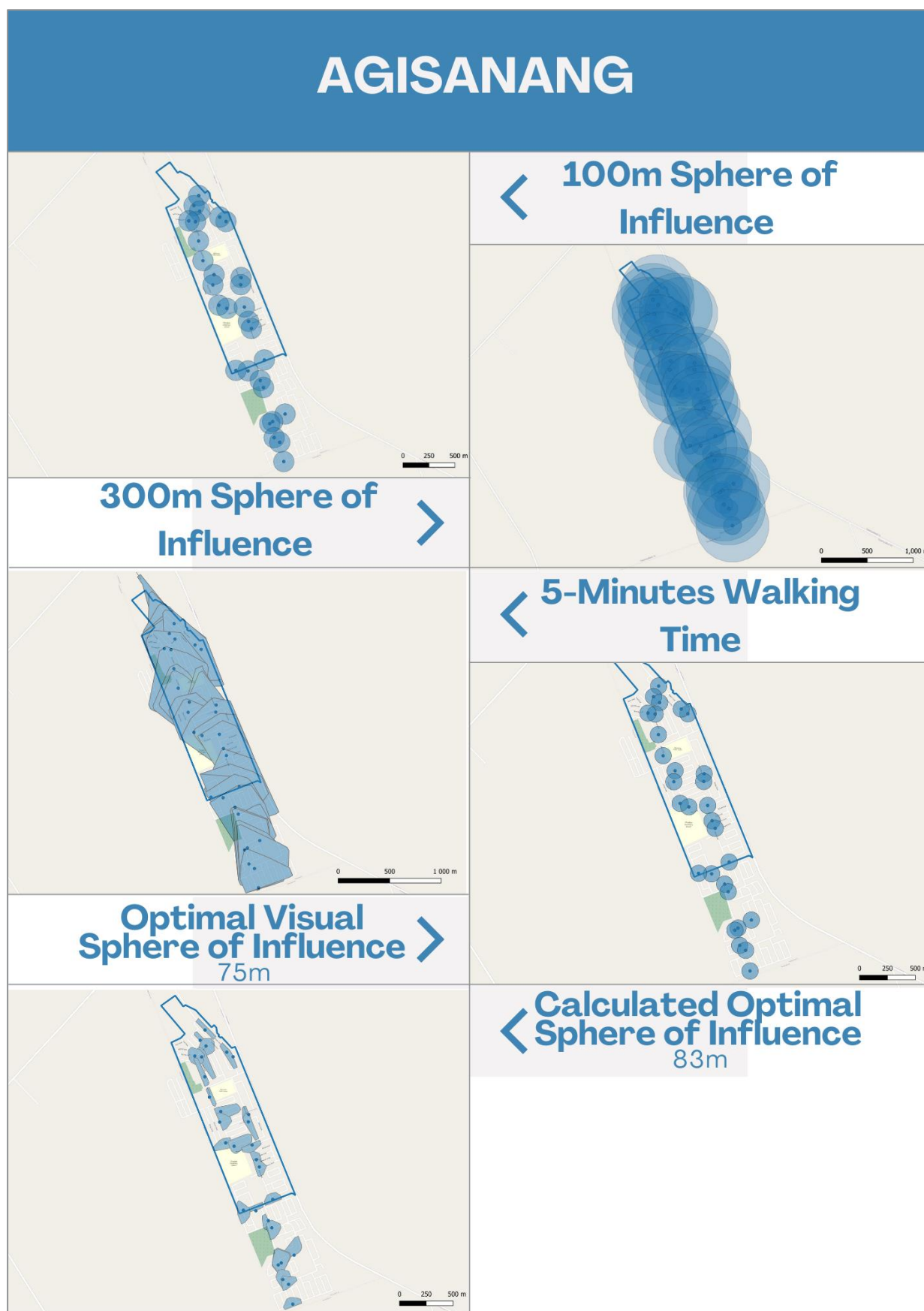


Figure 6-66: Comparison of Different Spheres of Influence for spaza shops in Agisanang

Source: Own Compilation using QGIS (2022)

Figure 6-66 depicts an optimal sphere of influence of between 70m - 85m. Although a 100m sphere of influence as well as a 5-minute walking time may seem optimal, it is important to note that Agisanang is a small area with a small population. Therefore, there is no need for the establishment of a vast number of spaza shops, and an extended commute to the spaza shops is unnecessary.

In Figure 6-67, a comparison of the various spheres of influence for spaza shops in Misgund is provided.

MISGUND

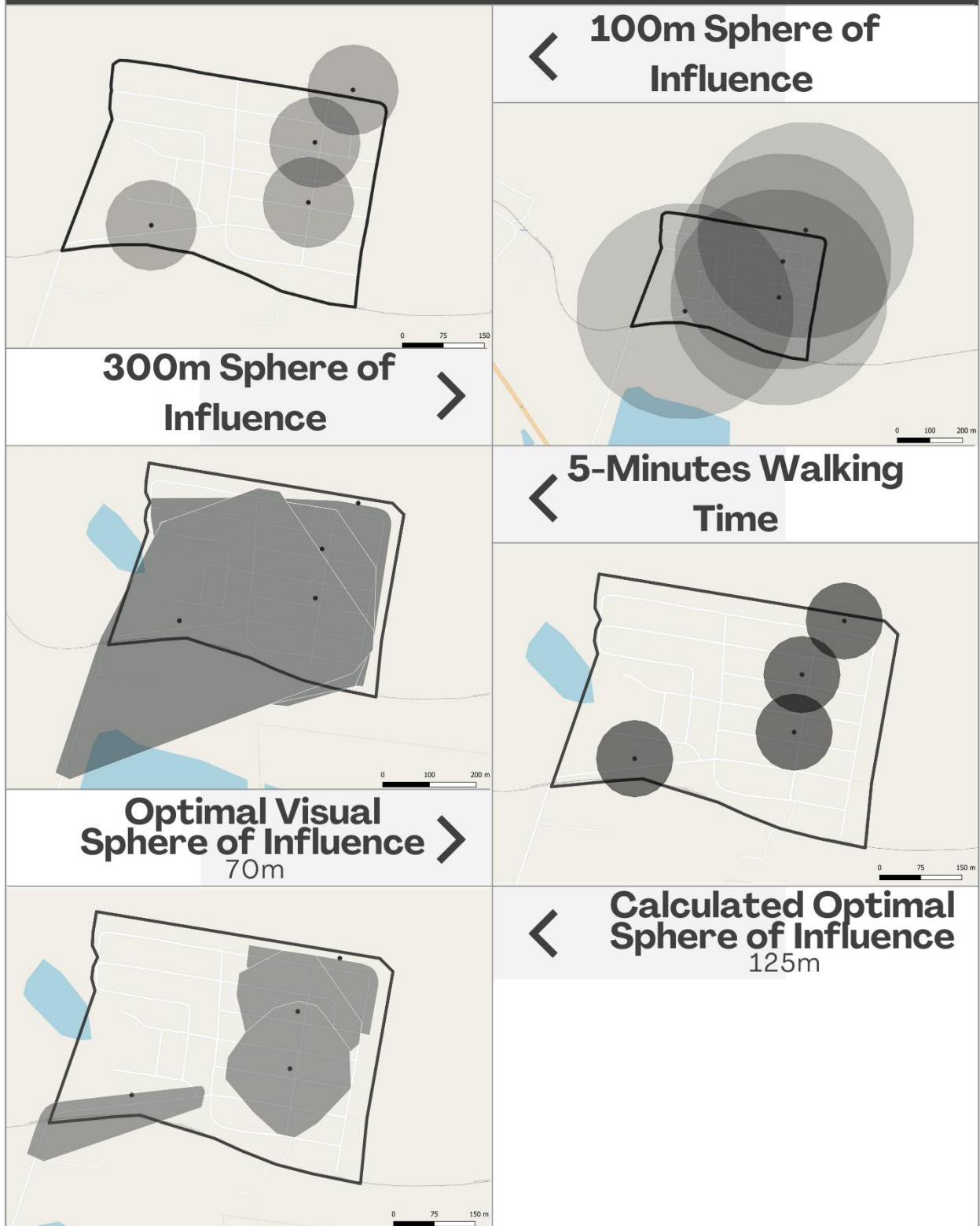


Figure 6-67: Comparison of Different Spheres of Influence for Misgund

Source: Own Compilation using QGIS (2022)

Figure 6-67 illustrates that the 300m sphere of influence as well as a 5-minute walking time may to be too extensive for Misgund. Considering this, a sphere of influence of between 70m-130m may be optimal for the area.

Figure 6-68 offers a comparison of the various spheres of influence for spaza shops in Ganyesa.

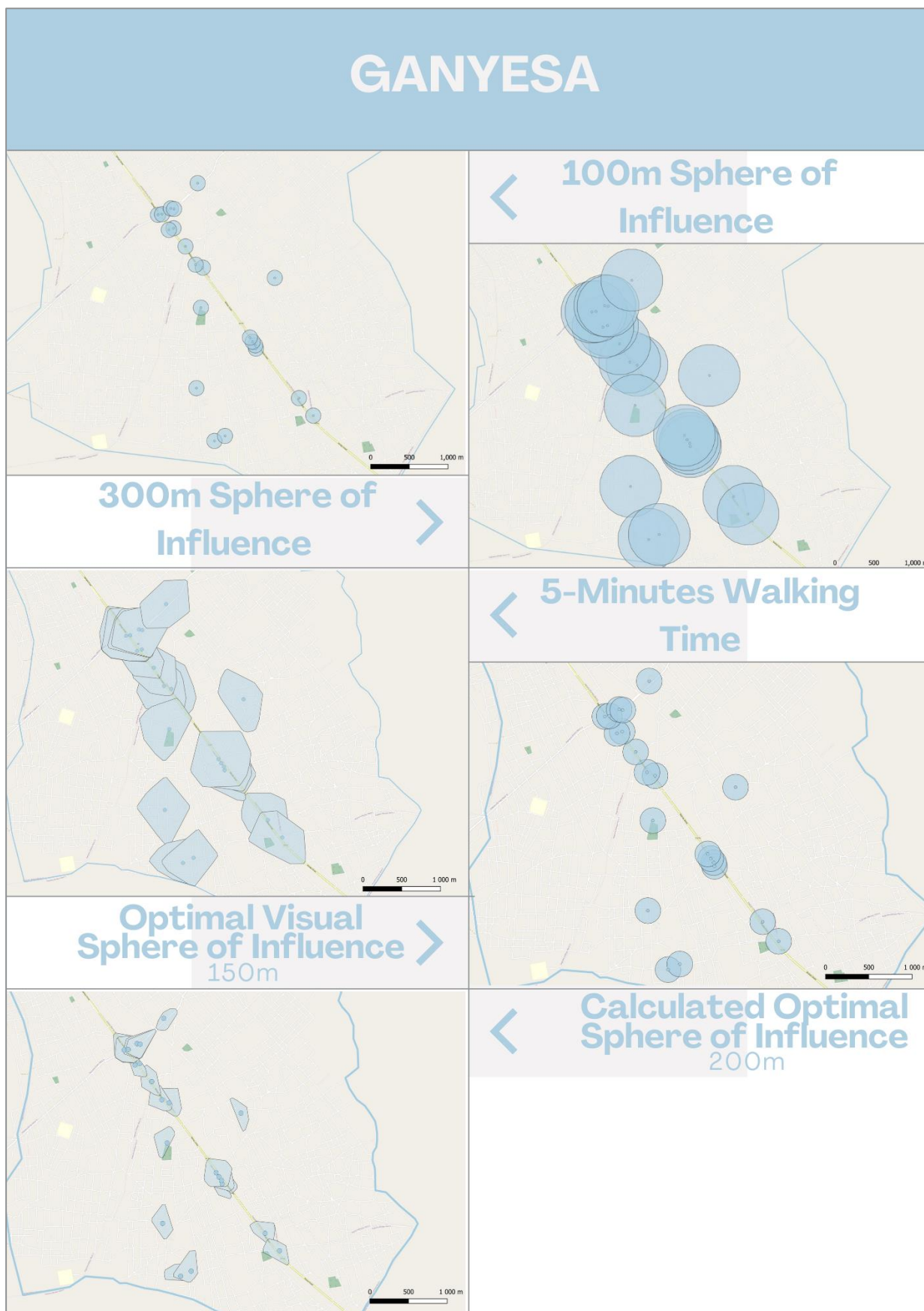


Figure 6-68: Comparison of Different Spheres of Influence for the spaza shops in Ganyesa
Source: Own Compilation using QGIS (2022)

In Figure 6-68, it is evident that an optimal sphere of influence for Ganyesa may be between 150m and 200m. Although visually observed, it may be deemed that this sphere of influence does not serve the entire population, and that a 5-minute walking time may be ideal. It is, however, essential to note that Ganyesa encompasses formal as well as informal economic activities. This dualistic economic nature of Ganyesa may influence the optimal sphere of influence.

Echoing the results of the urban low-income settlements, the summative Figures for the rural low-income settlements also suggest that the current guidelines and directives do not sufficiently correlate with the reality of the distribution of spaza shops in rural low-income settlements. This may be due to an overlapping of market areas resulting in an overcompetitive market, influencing the viability and feasibility of the spaza shops. It may also be ascribed to imperfect competition between spaza shops, resulting in a substantial number of households not being served by the existing spaza shops. Therefore, a comparative analysis between the spatial distribution of spaza shops in rural versus urban low-income settlements provides detailed insight into existing gaps in the information, enabling refinement of the current guidelines provided in spatial planning directives.

6.9 Comparison: spatial distribution of spaza shops in urban vs rural low-income settlements

During the empirical investigation of this study, it became evident that the spheres of influence for spaza shops in urban and rural low-income settlements do not differ significantly. A detailed comparative analysis of all the spheres of influence established during the preceding steps of the case study analysis, indicates that an average sphere of influence between 90m - 140m may be optimal for spaza shops in urban low-income settlements, while a sphere of influence between 70m - 150m may be optimal for spaza shops in rural low-income settlements. Table 6-4 provides a detailed summary of the visual and calculated spheres of influence for the various urban versus rural low-income case study areas.

Table 6-4: Comparative analysis between the spatial distribution of spaza shops in urban vs rural low-income settlements

Urban Case Study Area		Rural Case Study Area	
Jan Kempdorp		Agisanang	
Visual: 100m	Calculated: 107m	Visual: 75m	Calculated: 83m
Ikageng		Misgund	
Visual: 100m	Calculated: 135m	Visual: 70m	Calculated: 125m
Kanana		Ganyesa	
Visual: 50m	Calculated: 96m	Visual: 150m	Calculated: 200m
Optimal average		Optimal average	
90m-140m		70m-150m	

Source: Own Compilation (2022)

From Table 6-4 it may be concluded that Kanana has an optimal visual sphere of influence of 50m. However, this does not correlate with the other urban case study areas, and therefore, the calculated sphere of influence for Kanana is deemed more accurate. It is also evident that Ganyesa may be considered an outlier, as neither the visual nor the calculated spheres of influence for Ganyesa correlate with the other rural case study areas. Therefore, the optimal visual sphere of influence of 150m is considered a more accurate upper limit for the sphere of influence in the rural case study areas.

The final chapter of this study, aims to build on the preceding empirical findings to ultimately formulate conclusions and recommendations that may well contribute towards an enhanced understanding of the informal economy, urban and rural low-income settlements and specifically the spatial distribution of spaza shops and related informal economic activities in these South-African settlements. The comparative analysis as employed during the empirical research, provides the foundation for the formulation of these conclusions and recommendations in Chapter 7, specifically with the aim to contextualise the existing realities regarding the spatial establishment and distribution of spaza shops within the current directives.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

This chapter in conjunction with chapter 6, addresses the final objective for this study (Objective 5):

- 5) Compare the empirical research results between urban and rural low-income settlements and contextualise this with the current directives for the spatial distribution of economic activities in South-Africa.

Conclusions and recommendations are formulated in terms of the five research objectives for this specific study (c.f. section 1.3). An in-depth assessment of these objectives subsequently follows in the form of detailed conclusions and recommendations. Research findings and conclusions for each objective are discussed, supplemented by a corresponding recommendation highlighted in a separate text box. This may well provide practical solutions and proposals addressing the challenges as identified according to each research objectives.

7.1 *Objective 1: Economic activity in urban and rural low-income settlements in South Africa and the role and importance of spaza shops within these economies.*

7.1.1 A vague distinction between urban and rural low-income settlements and a deficient definition and classification of formal and informal economies in South Africa

- ✓ It is apparent from the literature study that there is no clearly defined, in-depth or measurable distinction between urban and rural characteristics in general, and even more so between urban and rural low-income settlements. Therefore, in order to distinguish between the urban and rural low-income settlements, this study strongly relied on a differentiation in terms of economic characteristics and economic activities in these settlements.
- ✓ Defining and delineating formal versus informal economies are considered to be complex and diverse, with the literature displaying various different definitions for both economies. It is also apparent that it is generally assumed that urban settlements are associated with both formal and informal economic activities, while rural settlements are primarily associated with informal economic activities with limited or no access to formal economic activities. This implies that rural settlements have to rely on managing their own unregulated economic activities as the informal economy generally persists outside the standard legislation. This exacerbates the already existing prejudice against rural settlements and their development potential, as the informal economy is commonly disregarded by most economists, business leaders, and politicians.

- ✓ This study used a number of these commonly accepted assumptions regarding urban and rural low-income settlements as well as the informal and formal economies, to differentiate between them. The following assumptions were useful for the purpose of this study:
 - Urban low-income settlements are generally located on the periphery of formally planned middle- to higher-income urban areas and have access to economic centres, while rural low-income settlements do not have access to any formal economic activities, middle to higher-income urban areas or economic centres.
 - Urban low-income settlements partake in both formal and informal economic activities. Residents have access to both formal and informal economic activities/employment and also have access to middle- and higher-income urban areas.
 - Rural low-income settlements are remotely located, not situated close to other economic centres and do not have access to urban/formal economic centres. Rural settlements are surrounded mainly by villages and farms, and are primarily economically dependent on agriculture.
 - Rural low-income settlements mostly depend on their own (informal) economy to generate income/economic activities due to not being located near formal/urban economic activities. These settlements are primarily reliant on informal economic activity for income/employment. Some do have access to formal economic activities (it is evident in the empirical investigation that Ganyesa is an outlier) but are driven mainly by the informal economy.

Recommendation

- It is recommended that more in-depth research is conducted to generate a measurable, relevant and current framework for distinction between urban and rural low-income settlements in South Africa.
- Although classifications distinguishing between urban and rural settlements exist, they are outdated and focus mainly on differentiating between various types of urban settlements.
- A framework with quantifiable and measurable criteria characterising both urban and rural low-income settlements should be compiled to inform decision-making regarding these settlements.
- This research should be conducted in a multi-disciplinary team, in order to ensure a holistic definition and delineation incorporating classification criteria across multiple disciplines.

- It is also important to establish an adequate and detailed framework and classification of formal and informal economies, updated to incorporate the most recent developments in both the formal and informal economies.
- The assumptions used in this study may be utilised as a point of departure to inform the compilation of frameworks distinguishing between urban and rural low-income settlements as well as the formal and informal economies.

7.1.2 Unique economic characteristics of the informal economy viewed as an asset and not a liability

- ✓ It is evident from the literature study that the informal economy comprises limited investment, with more investment focused on the formal economy. This is due to a principle of high risk and low return in the informal economy, although the informal economy generates a considerable income for the national economy.
- ✓ The informal economy is characterised by a diversified income base supported by the diversification of a variety of economic activities. This diversification ensures economic resilience and enhanced living conditions. Individuals employed in the informal economy may also sometimes be economically active in the formal economy as well, in order to ensure a diversified and consequently more resilient income.
- ✓ The informal economy may be identified as the economy of innovation, improvisation and self-reliance, the “homemade” economy, denoting a high level of creativity and entrepreneurship, further contributing to the resilience and sustainability of the informal economy.
- ✓ The informal economy is the consequence of knowledge, resilience, self-organisation, and community cohesion, while still adhering to numerous, well-established but unwritten regulations. It is an economy that was established out of desperation; however, it emerged into an economy of aspiration with various opportunities, in many instances also leading to an enhanced cohesion in low-income communities as well as a feeling of self-realisation and satisfaction.

Recommendation

- Although the informal economy contributes significantly to the national economy, this contribution is not commonly known or recognised in practice.
- It is important to make investors aware of the unique characteristics, resilience and noticable economic contribution of the informal economy, in order to ensure increased investment in informal economic activities, for instance spaza shops.
- In order to ensure this, more research and popular publications are required on the informal economy and its contribution, as knowledge creates interest and has the power to decrease perceived risks for investment.
- Purposefully educating prospective young Economists and Urban Planners on tertiary level regarding the realities and unique opportunities presented by the informal economy, may also ensure the necessary exposure to create a change in perceptions regarding the informal economy.

7.1.3 Indispensable role and importance of spaza shops in the South African economy

- ✓ It is apparent that spaza shops contribute immensely to the South African economy while also being considered the main food distribution outlet in low-income settlements. However, in the literature study, it is evident that spaza shops merely survive for around five years due to high levels of competition in the informal market.
- ✓ While spaza shops contribute noticeably to the South African economy, it is challenging to capture the contribution, as there is no official records of transactions and taxes to quantify the economic input of spaza shops. Therefore, the contribution of spaza shops to the Gross Domestic Product (GDP) is challenging to quantify in the same way as formal economic activities.
- ✓ In the literature, it is also suggested that most consumers of spaza shops are characterised by an LSM level of 4-7 due to a lack of transport. However, the segment of the population characterised with LSM levels of 4-7 is considered to be part of the middle-class income groups, and would most probably not make use of spaza shops.

Recommendation

- In order to recognise the economic contribution of spaza shops to the national economy, it is important to capture this contribution in the GDP.
- In capturing the economic contribution of spaza shops to the GDP, it is recommended that economists use counterfactual reasoning. Counterfactual reasoning asks the question “what if”, in order to allow economic decision-making under uncertainties (Hashem Pesaran & Smith, 2012:2). Therefore, with the use of counterfactual reasoning, it is determined what would have transpired if observed characteristics or phenomena were different from what prevailed at the time (Hashem Pesaran & Smith, 2012:2). An example of this would be a housewife cooking for a family every night. Most often, a housewife is not paid to cook for the family, however, it is regarded as an economic activity.
- Therefore, in order for economists to quantify and capture the economic contribution of spaza shops, it should be determined what it would cost to rather outsource the food they sell by, for instance, hiring a private chef.
- It is, therefore, proposed that economists utilise the same principle in quantifying the economic contribution of spaza shops to the GDP, by determining what it would, for instance, cost to rather make use of public transport to have access to formal retail centres rather than walking 50-100m to a spaza shop. Considering this, it is further suggested that future economic research determine whether or not it is possible to calculate and quantify the economic contribution of spaza shops to be captured in the GDP.
- It is also important to review literature characterising the consumers of spaza shops in low-income settlements, as the literature especially regarding the LSM levels, does not currently align with practice.

7.1.3 Relevance of the spatial and economic impacts of spaza shops

- ✓ The literature identified that spaza shops cluster due to economic feasibility and agglomeration advantages attributed to the spillover of knowledge, ensuring competitive advantages.
- ✓ According to the literature, little to no competition between spaza shops and formal retail facilities are evident, with spaza shop owners supporting formal retail facilities. These formal retail facilities supply goods and services to spaza shops, as spaza shops are limited in product diversity. The formal retail facilities do however influence the profit of spaza shops, with consumers rather shopping at formal retail facilities due to fewer product limitations.
- ✓ In practice, however, it is rather evident that spaza shops do influence formal retail facilities. This is due to the convenient and accessible nature of spaza shops.

It is assumed in practice that consumers in low-income settlements would rather shop at spaza shops rather than formal retail facilities, with spaza shops being easily accessible and convenient for shopping.

Recommendation

- Urban planners, municipalities and related policy-makers should take responsibility to identify and acknowledge the localities of spaza shops when proposing and developing formal retail facilities, especially in and surrounding low-income settlements. It is also important to capture and define spaza shops in LUSs, SDFs and spatial planning directives. This would ensure the recognition of the existence of spaza shops and other informal economic activities, even though the formalisation of spaza shops as a land use is not possible given its informal nature. However, in capturing and defining spaza shops in these directives, the importance of recognising the general spatial distribution, location and role of spaza shops should be facilitated.

7.2 Objective 2: Theoretical context to the role and importance of economics in Planning

7.2.1 Role and importance of economics in Planning largely overlooked

- ✓ Limited literature is available that acknowledges and defines the role, importance and interface between economics and Planning. Therefore, the economic impacts of development in urban and rural settlements are largely overlooked as it is mostly not identified as a priority in Urban Planning.
- ✓ However, economics fulfil an integral role in Urban Planning and vice versa, due to the critical importance that the spatial location and distribution of formal and informal economic activities play in the economic growth and development of a settlement. Therefore, a specific development may never reach its full growth potential if the interrelationship between economics and the spatial planning of the settlement is not taken into account.
- ✓ When economics are disregarded in spatial development, it may result in failed developments as the buying power, economic feasibility, disposable income and consumption expenditure are not considered.
- ✓ In South Africa, population growth and urbanisation initiated a housing backlog, resulting in high levels of unemployment and poverty, associated with a continuous decline in economic growth. Planning is, therefore essential in providing solutions for individual economies, with the physical layout of the settlement influencing the economy and vice versa.

Recommendation

- Firstly, more research and publications is required regarding the critical importance of incorporating economics in Planning. Furthermore, it is essential to incorporate economics in the curriculum of Urban Planning programmes on a tertiary level, to enable and equip Urban Planners with the knowledge and insight to prioritise economics when planning new developments or settlements.
- Supplementary to this, Urban Planning students should also be trained in obtaining and utilising appropriate quantitative data and statistical databases (e.g. Quantec Easydata) in order to empower them with basic economic analysis skills that will be useful during spatial planning decision-making. The importance and relevance of the connection between economics and Planning should be explicated and elucidated in undergraduate studies and the Urban Planning modules. Finally, Urban Planners should increasingly incorporate economics in spatial planning and development in practice. Spatial planning should not only focus on physical planning, but also the economic development and growth of the settlement, especially in regards to low-income settlements as this may contribute to promoting employment opportunities and generating income for the residents. This may ensure that spatial planning would improve the local economy as well as the living conditions of the residents.

7.2.2 Relevance of Institutional Economics in understanding the psychology of economics in urban and rural low-income settlements

- ✓ The cooperation between community members, community management, social standards and supplementary institutional measures are adequate in avoiding government intervention and regulations, as well as avoiding market regulations, while still being theoretically feasible. Informal institutions depend on one another for success, feasibility and profitability. Generally, it is believed that the informal economy is unstructured, unorganised, simple and irregular, while the Institutional Economics approach considers it to be extremely structured, occasionally more than the formal economy.
- ✓ The informal economy is a monopolistic competitive market, with competition driving profits, providing ease of entry and excess capacity due to an average supply price of entry. It generates inexpensive, partially competitive products for local markets, forcing the formal economy to generate more profitable goods for local markets and exports.
- ✓ Spatial competition in the market is monopolistic in nature, comprising marginally differentiated products in one area with unrestricted entry, enabling consumers to easily

switch from one shop to another. One market, therefore, has a local monopoly over the surrounding area.

- ✓ In the literature it is apparent that spaza shops have a local monopoly over the surrounding area, especially in rural low-income settlements. This is due to rural low-income settlements not having adequate access to formal retail facilities, and therefore, the community has to rely on spaza shops for shopping needs.

Recommendations

- Public services, for instance the retail services of spaza shops, should continue to be considered as non-governmental institutions with self-regulatory social institutions, with no government or market interventions, but rather public interventions. All aspects of institutions influence each other. Therefore, it is important to be aware of the norms, values and standards that influence the behavioural pattern of the people in each institution in a society. In being aware of the behavioural patterns of the society, the market outcome of the community is easier to determine as well as the allocation of resources via the market system.
- The opposite may also be considered: the market outcome and the allocation of resources may also impact the human behaviour of the community members. This is due to the community members arranging behavioural patterns in accordance with how the resources are allocated as well as the norms, values and standards according to the outcomes. Therefore, the behavioural buying pattern of consumers of spaza shops should be researched and published in order to ensure the optimal spatial location of formal retail developments within urban and rural low-income settlements.

7.2.3 Impacts of the New Economic Geography on the spatial distribution of economic activities in urban and rural low-income settlements

- ✓ Numerous economic activities supply one another and therefore tend to cluster together in order to locate near the output demand sources, supporting backward (demand) linkages. Economic activities may also locate near suppliers, supporting forward (cost) linkages. Agglomeration is an effect of the combination of both backward and forward linkages.
- ✓ High transportation costs may ensure that consumers benefit from markets located nearby, while related industries in the same settlement may attract more job opportunities.
- ✓ With regards to spaza shops, it is apparent that spaza shops cluster together in low-income settlements. This may possibly be due to the agglomeration benefits from being located near one another, supporting backward (demand) linkages.

- ✓ Most consumers in low-income settlements do not have access to private transport or mainly have to make use of taxi's for public transport. Therefore, most consumers walk to spaza shops for shopping purposes. Considering this, transportation costs are presumably not high, however, walking-time may rather be considered as a variable that is high.

Recommendations

- It is more profitable to concentrate similar production with superior access to market and suppliers in spatial planning in order to support backward and forward linkages. This should be considered and incorporated in spatial planning decision-making, especially relating to the spatial distribution of spaza shops in low-income settlements.
- ✓ With high transportation costs, economic activity is distributed in order for every location to meet the demand of the consumers. In low-income settlements, retail facilities would benefit from locating close to one another, due to most consumers not having access to transportation, and therefore have to walk. Considering this, when spaza shops are located near one another, it is easily possible for a consumer to walk from one spaza shop to the other in the instance of not finding all grocery needs in one spaza shop.
- An enhanced focus on research regarding the impacts that the New Economic Geography may have on spatial planning is proposed, as well as research on the influence this theory may have on the establishment of informal versus formal economic activities.

7.2.4 Reconsidering the application of the Central Place Theory in the current South African spatial planning context

- ✓ The Central Place Theory comprises numerous limitations discussed in the literature study, for example, not considering the geography of the settlement.
- ✓ While the Central Place Theory comprises limitations, it is still considered a foundational theory in the spatial planning practice, and numerous municipal SDFs base spatial considerations and guidelines on this theory.
- ✓ However, this theory is also outdated, with no consideration for the South African historical and unique spatial context. The Central Place Theory is based on a European spatial context, while South Africa is unique in its spatial characteristics due to its heritage of Apartheid and historical spatially segregated nature, as mentioned in the literature study (c.f. section 3.1).

Recommendations

- It is imperative to recognise the importance of the Central Place Theory in providing the backbone for research on spatial planning and the spatial distribution of economic activities.
- However, it is recommended that this theory should be updated and reconsidered from a South African spatial planning perspective, as South Africa has a unique spatial planning context.
- Therefore, the Central Place Theory should rather be used as a point of departure for spatial planning, than a blueprint guideline for spatial planning. Further to this, the theory should also be updated with regards to the South African context before being considered as a reference for spatial planning in Planning directives, including the SDFs.

7.3 Objective 3: Current directives regarding the spatial distribution of economic activities and spaza shops in South Africa

7.3.1 Role and importance of SPLUMA in providing legal direction for the planning of economic activities in low-income settlements

- ✓ SPLUMA requires Urban Planners to recognise the economics of settlements in compiling SDFs in Article 21. However, this legal requirement does not translate to spatial planning practice, as many Urban Planners are not familiar with the requirements of Article 21 or do not know how to incorporate economics in spatial planning.
- ✓ This is evident in municipal SDFs, as economics are not included in many SDFs or merely incorporated on a generic basis.
- ✓ SPLUMA does not specify detailed requirements for spatial planning relating to economic activities in low-income settlements. Consequently, current directives, for example, SDFs, do not comprise detailed and informative guidelines on the spatial distribution of economic activities in low-income settlements and the planning thereof.
- ✓ Further to this, municipal SDFs do not always comply with SPLUMA Article 21, while many SDFs are outdated or unavailable. It was also challenging to obtain any information on spaza shops in the SDFs of the case study areas, or even gain access to the municipal SDFs for some of the case study areas.
- ✓ Most of the SDFs also did not differentiate between high and low-income settlements or urban and rural settlements within the local municipalities. Therefore, the SDFs presumably assume that the same spatial planning guidelines are appropriate for both high- and low-income settlements or urban and rural settlements within the local

municipalities. The SDFs are, therefore, too generic, assuming the same spatial planning guidelines are appropriate for all types of settlements within the local municipalities.

- ✓ Informal land use development processes in informal and low-income settlements are not adequately integrated into formal planning procedures and municipal land use management systems, due to SDFs and other planning directives mainly focusing on formal and middle to high-income settlements.

Recommendations

- SPLUMA directs and guides Planning directives, as SPLUMA is a national legislative act aiming to address previous spatial imbalances. This is proposed by unifying spatial planning and land use management, and promoting economic and social cohesion, by necessitating the compilation of municipal SDFs to administer these solutions. These directives should, therefore, be used as the primary vehicles to direct and guide spatial planning for urban and rural low-income settlements, with as specific focus on the incorporation of economics in spatial planning to inform decision-making.
- It is further recommended that Article 21 in SPLUMA should be revisited and refined to provide guidelines for the compilation of SDFs specifically elaborating on high- versus low-income settlements as well as urban versus rural settlements. This may well encourage municipal SDFs that are more relevant and practice related, providing guidelines addressing urban and rural differences with a specific focus on low-income settlements. Directives should not merely focus on the formal and high-income settlements, but also the informal and low-income settlements.
- In order to implement these recommendations for municipal SDFs, it is further recommended that SPLUMA guidelines for SDFs, as provided for in Article 21, should be communicated by training planning practitioners, municipal officials and policy-makers (by means of workshops or short courses) in order to transfer knowledge regarding the specific requirements that will facilitate efficient spatial planning and economic growth in low-income settlements.

7.3.2 Updating/reviewing the Classification and Hierarchy of Retail Facilities in South Africa:

- ✓ The Classification and Hierarchy of Retail Facilities in South Africa document is challenging to comprehend, due to apparent disparities in the document.
- ✓ Furthermore, the document is also not very user-friendly, especially with reference to the staggered tables/matrices, actually containing the essence of the classification and hierarchy of retail facilities.

- ✓ The economy of the settlements is not entirely taken into account, and is mostly skewed to the demography (socio-economics) of the population. Therefore, while the economy is somewhat taken into account (i.e., household income, LMS levels etc.) the economic variables are overwhelmed by the socio-economic criteria. The economy and demography (socio-economy) of each settlement differ, with the economy as well as the demography of the settlement influencing the spatial planning of the settlement.
- ✓ The guidelines for the Classification and Hierarchy of Retail Facilities in South Africa determine that spaza shops are supported by households with LSM levels of 1-6. This includes a sizeable segment of the population, and may be too broad, and include LSM levels that are too high, to sufficiently inform the spatial distribution of spaza shops. This also does not correlate with the literature, indicating that spaza shops cater for LSM levels 4-7 (as discussed in objective 1).
- ✓ The Classification and Hierarchy of Retail Facilities in South Africa make use of radiuses instead of isochrones and therefore does not necessarily take cognisance of geographical challenges in determining the spheres of influence for retail facilities.
- ✓ A 100m-300m sphere of influence for spaza shops does not correlate with a 5-minute walking time, as referred to in these guidelines. This is evident in section 6.8, where a 5-minute walking time does not correlate with a 100m or 300m sphere of influence in both Agisanang and Misgund. However, in the Jan Kempdorp, Ikageng, Kanana and Ganyesa case study areas, a 5-minute walking time correlates with a 300m sphere of influence, rather than a 100m sphere of influence.

Recommendations

- It is recommended that the guidelines for the Classification and Hierarchy of Retail Facilities in South Africa should be reviewed and updated. In doing so, the layout of the document may also be updated in order to ensure a more user-friendly version of the document.
- The LSM levels for households making use of spaza shops, should be reconsidered and refined to more realistically reflect the LSM levels of consumers supporting spaza shops. It is recommended that updated guidelines emphasise the economic criteria instead of mostly focusing on the demographic (socio-economic) criteria in order to enhance the classification of retail facilities.
- Instead of using radiuses to represent spheres of influence, the document should rather focus on isochrones, drive-time and walking-time. Therefore, isochrones may facilitate the integration of physical aspects and the geography as a variable in spatial planning. This would also ensure that the spheres of influence correlate with the drive-time/walking time.

- The guidelines for the Classification and Hierarchy of Retail Facilities in South Africa should consider the incorporation of a multi-disciplinary approach when updating and reviewing the document. This may ensure that the document is all-encompassing, and not just focused on one specific field. Therefore, it would be optimal if city councils from various municipalities, Urban Planners, economists, urban anthropologists, developers, etc. provide collective inputs into the document, thereby ensuring a holistic and all-encompassing perspective on the Classification and Hierarchy of Retail Facilities in South Africa.

7.3.3 Deficiencies in the CSIR Guidelines for Human Settlement Planning and Design

- ✓ The Guidelines for Human Settlement Planning and Design is a fundamental spatial planning directive, as it provides guidelines for the establishment of new developments. It is a directive that is usually cited in motivational memorandums for new developments. However, this directive does not specifically incorporate economic factors in the guidelines for settlement planning and does not differentiate between high- and low-income or urban and rural settlements.
- ✓ The differences between urban and rural settlements are merely acknowledged in this directive, but the guidelines are generic for all types of settlements (high- and low-income as well as urban and rural settlements).
- ✓ This directive aims to address planning and design challenges in South Africa, however, no focus is placed on low-income settlements, which are the settlements in South Africa facing the most significant challenges regarding planning and design. The Guidelines for Human Settlement Planning and Design acknowledges the challenges and the absence of spatial planning and design in low-income settlements, while also acknowledging the contribution of these settlements. However, no specific or inadequate guidelines for the planning and design of low-income settlements and the spatial distribution of economic activities in these settlements, are included in this directive..

Recommendation

- It is recommended that the Guidelines for Human Settlement Planning and Design should include practical guidelines for planners, providing practically implementable options to incorporate economic into motivational memorandums for new developments.
- It is also proposed that this directive should include guidelines that distinguish between high- versus low-income as well as urban versus rural settlements, ensuring that the directive is not generic for all settlements.
- Practical guidelines should also be included for Planners to acknowledge and include the spatial distribution of economic activities in low-income settlements when planning for formal development, especially relating to the spatial distribution and location of spaza shops in relation to the provision of formal retail facilities in low-income settlements.
- It is finally recommended to engage various communities from different socio-economic backgrounds, including urban and rural areas as well as low-income and middle to higher-income settlements, in the process of updating and reviewing this document. This may well ensure a more bottom-up approach, providing relevant and practically implementable guidelines, as opposed to the current top-down approach.
- The update and review should also include a multi-disciplinary team to ensure an all-encompassing directive that is not generic in nature.

7.4 Objective 4: Location and spatial distribution of spaza shops in rural versus urban low-income settlements

7.4.1 Impact of socio-economic criteria on the spatial distribution of spaza shops in urban and rural low-income settlements

- ✓ The population in urban case study areas is mostly dense, while the rural case study areas are mostly sparsely populated. Therefore, the number and distribution of spaza shops in urban low-income settlements differ significantly from the rural low-income settlements, as the population in the urban settlements have easier access to spaza shops.
- ✓ Spaza shops are evidently located further away from each other in areas with higher income levels, while spaza shops are more closely situated near one another in areas with lower income levels. This may be due to transportation options being available in areas with a higher income (public/private), while residents in areas with low-income levels would more likely depend on walking to the spaza shops.

Recommendations

- Planning practitioners should identify the density of the population in the low-income settlements when planning developments in and around low-income settlements. This would also provide an indication to the Planning practitioners of the distribution and location of spaza shops in the low-income settlements.
- The presence of public transportation should also be identified in the area, with this providing an indication of the economic nature of the settlement. In capturing a possible reoccurring pattern, the connection between income and the spatial distribution of spaza shops should be researched in other case study areas. This may ensure a more definite understanding of the relation regarding the frequency of spaza shops and the annual household income levels in low-income settlements, as well as the prevalence of public transportation in these settlements.

7.4.2 Disparity between the spheres of influence for spaza shops

- ✓ The guidelines provided in the spatial planning directives do not correlate sufficiently with the spheres of influence for spaza shops as determined by the visual and calculated demarcations in the case study areas. The guidelines, proposing an average sphere of influence of 100m-300m for spaza shops in general, are too broad and extensive for low-income settlements in both urban and rural low-income settlements.
- ✓ The difference between the guidelines and the reality is the tendency towards perfect competition between retail facilities as described in the Central Place Theory, resulting in the establishment of the maximum number of retail facilities (spaza shops) that the competitive market would permit.
- ✓ A substantial number of households not currently served by the existing spaza shops, would therefore indicate imperfect competition, signalling that more spaza shops may be established in the specific urban or rural low-income settlement.
- ✓ In view of this, the current guidelines as captured in the spatial planning directives, may be too broad to properly plan for and understand the reality of the spatial distribution of spaza shops.
- ✓ A 5-minute walking time mostly correlates with the upper limit of the identified spheres of influence with a 300m radius.
- ✓ The calculated sphere of influence is larger in denser populated settlements and smaller in sparsely populated settlements. However, Ganyesa is deemed an outlier, as Ganyesa is extremely sparsely populated, comprising the most extensive calculated sphere of influence. This may be due to the presence of informal and formal economic activities in Ganyesa, causing a large portion of the settlement not to be served by spaza shops.

Recommendations

- Considering the empirical investigation of this study, it may be derived that neither ends of the spectrum for the guidelines of spheres of influence are an optimum size for spaza shops in low-income settlements, with immense overlapping present, while parts of the settlements are excluded in some case study areas. Therefore, it is recommended that the guidelines for spheres of influence for spaza shops should be flexible and adaptable according to economy and demography of the specific low-income settlement to ensure determining an optimal size for the spheres of influence of spaza shops.
- It is further recommended to expand the case study analysis as employed in this study, to include substantially more urban and rural low-income settlements in South Africa. This would broaden the knowledge base and provide more comparative information regarding the differences in the spatial distribution of spaza shops in urban vs rural low-income settlements. A comparative analysis between the spatial distribution of spaza shops in rural versus urban low-income settlements provides detailed insight into existing gaps in the information, enabling refinement of the current guidelines provided in spatial planning directives.
- Based on the calculations of this study, it is recommended that a sphere of influence between 90m-140m may be optimal for spaza shops in urban low-income settlements, while a sphere of influence between 70m-150m may be optimal for spaza shops in rural low-income settlements. It is recommended that current directives in spatial planning, specifically with reference to the guidelines for the Classification and Hierarchy of Retail Facilities in South Africa, be updated with the adapted spheres of influence for spaza shops.
- Finally, it is recommended that it is not optimum to have a one-size-fits-all approach in determining the size of the spheres of influence for spaza shops in low-income settlements. The planning process should include the contextualisation and context-specific analysis of urban and rural low-income settlements to ensure a more adequate understanding of the settlement before the commencement of spatial planning processes to ensure a unique layout solution for each type of settlement.

7.4.3 Comparison of the spatial distribution of spaza shops in urban versus rural low-income settlements

- ✓ The locational characteristics of Ganyesa may be deemed an outlier to the rest of the rural case studies investigated due to its status as a rural low-income settlement located on traditional land.

- ✓ Spaza shops are more evenly spatially distributed in areas where little to no formal economic activities are present within the settlement itself, being mainly the rural low-income settlements in this study. Therefore, it is noticeable that, without intervention from the formal economy, spaza shops are evidently organically evenly distributed within low-income settlements, denoting that the informal economy organises itself optimally.
- ✓ Spaza shops in urban low-income settlements are spatially more concentrated and agglomerated, located in close proximity to one another in certain parts of the settlements. This may be due to the presence of formal economic activities/formal retail facilities, denoting that the competition between formal and informal economic/retail activities may create a disparity between formal economic activities and spaza shops in the area. Spaza shops in urban low-income settlements therefore have to compete with formal retail facilities, contrary to the argument in many literature sources stating the opposite.

Recommendations

- In improving the economic dynamic of urban and rural low-income settlements and ensuring the establishment of retail facilities to be more economically feasible, it is imperative to rethink current spatial planning approaches in these settlements. It is recommended to improve the spatial distribution of retail facilities to be more economically viable and feasible by considering the organic distribution of spaza shops in the spatial planning process. In optimising the introduction of Planning in low-income settlements specifically, the origin and existence of retail facilities in low-income settlements may be researched to provide guidelines to introduce and optimise spatial planning in these settlements.
- It is also suggested that the essence and context of each urban and rural low-income settlement in South Africa is unique, and it is therefore recommended that the planning of retail facilities for low-income settlements should be uniquely designed for urban and rural low-income settlements.
- When planning for a new development, specifically a retail centre, in and around low-income settlements, it is important to establish the nature and context of the settlement. This would include classifying the settlement as a traditional, urban or rural low-income settlement. The unique nature and difference between these settlements should be taught and it is recommended that undergraduate Urban Planning curricula should capture these differences specifically, ensuring through education, that young planners acknowledge the difference between urban and rural low-income settlements, and plan accordingly.

- It is finally recommended that the comparative analysis of the spatial distribution of spaza shops in urban versus rural low-income settlements, as employed during the empirical research of this study, provide the point of departure to inform future decision-making in spatial planning. This should specifically the aim to contextualise the existing realities regarding the spatial establishment and distribution of spaza shops within the current directives.

The deficiencies, disregard, and generalisation of spaza shop integrated in South African Planning directives and the national economy are established. These identified challenges may possibly increase the acknowledgment and integration of the function and value of spaza shops in the economy as well as in planning practice.

Future research could possibly regard not only spaza shops, but various different retail facilities. It could be determined how the different retail facilities influence the economy, how the economy influence different retail facilities, as well as the impact that various retail facilities have on the living standard of the consumers and the surrounding community. Research is also necessary in updating the mentioned directives, especially the Classification and Hierarchy of Retail Facilities in South Africa document.

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ANNEXURES

ANNEXURE A: Data Projections

Low-income Settlements	Average Household Monthly Income			Growth rate %			Projection 2021		
	1996	2001	2011	5 Years	10 Years	Average (15 Years)	5 Years	10 Years	Average (15 Years)
				1996-2001	2001-2011	1996-2011			
Agisanang	297	272	359	-1.73	2.82	1.28	302	475	408
Misgund	1	1	222	1.58	75.14	46.06	260	60420	9830
Ganyesa	1188	1303	2038	1.86	4.58	3.66	2450	3188	2920
Jan Kempdorp	2917	3526	4431	3.87	2.31	2.83	6478	5569	5857
Ikageng	15908	16453	23247	0.68	3.52	2.56	24867	32847	29937
Kanana	1260	1029	2642	-3.98	9.89	5.06	1760	6783	4326
Misgund Average Growth Rate	1	1	222	0.06	3.70	2.47	224	320	284
Kanana Average Growth Rate	1260	1029	2642	2.27	2.91	2.69	3307	3521	3446

Description	The total monthly household income for Agisanang, Misgund, Ganyesa, Jan Kempdorp, Ikageng and Kanana (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical census monthly household income data were extrapolated for each subplace employing a logarithmic growth formula, based on a 5 year (1996-2001), 10 year (2001-2011), and 15 year (1996-2011) average growth rate, determined for each subplace respectively in order to obtain high, medium and low growth probability scenarios. The 15 year average monthly household income growth rate of respectively 1.28%, 46.06%, 3.66%, 2.83%, 2.56% and 6.06% was inform the monthly household income for the case study areas in 2021. The 15-year growth rate for Misgund is substantially high, at a 15-year growth rate of 46.06%. Therefore, the average rural growth rate of Agisanang and Ganyesa was used to determine a more realistic growth rate for Misgund. Therefore, a growth rate of 2.47% for Misgund is chosen. The same is applicable for Kanana. The 15-year growth rate for Kanana is above average, at a 15-year growth rate of 5.06%. Therefore, the average growth rate of Jan Kempdorp and Ikageng was used to determine a more realistic growth rate for Kanana. Therefore, a growth rate of 2.69% for Kanana is chosen.
Citation	Quantec. 2021. EasyData. https://www.quantec.co.za/ Date of Access: 11 January 2022. [Database].

Rural Low-Income Settlement	Average Household Monthly Income				Urban Low-Income Settlement	Average Household Monthly Income			
	1996	2001	2011	2021		1996	2001	2011	2021
Agisanang	297	272	359	408	Jan Kempdorp	2917	3526	4431	5857
Misgund	1	1	222	9830	Ikageng	15908	16453	23247	29937
Ganyesa	1188	1303	2038	2920	Kanana	1260	1029	2642	4326
Misgund Average Growth	1	1	222	284	Kanana Average Growth	1260	1029	2642	3446

Low-income Settlement	Total Population			Growth Rate %			Projection 2021		
	1996	2001	2011	5 Years	10 Years	Average (15 Years)	5 Years	10 Years	Average (15 Years)
				1996-2001	2001-2011	1996-2011			
Agisanang	1 680	1 688	1 905	0.10	1.21	0.84	1923	2149	2071
Misgund	2	2	415	-	70.49	42.71	415	86113	14545
Ganyesa	13 386	15 422	19 290	2.87	2.26	2.47	25604	24128	24610
Jan Kempdorp	14 005	16 969	24 220	3.91	3.62	3.72	35557	34569	34895
Ikageng	58 666	70 730	87 701	3.81	2.17	2.72	127479	108744	114661
Kanana	4 428	4 897	7 830	2.03	4.81	3.87	9576	12520	11450
Misgund average growth	2	2	415	-	1.74	1.65	415	493	489

Description	The total population for Agisanang, Misgund, Ganyesa, Jan Kempdorp, Ikageng and Kanana (Main Places) in 2021 is based on the 1996, 2001 and 2011 census data, obtained from Quantec Easydata. Historical census population data were extrapolated for each subplace employing a logarithmic growth formula, based on a 5 year (1996-2001), 10 year (2001-2011), and 15 year (1996-2011) average growth rate, determined for each subplace respectively in order to obtain high, medium and low growth probability scenarios. The 15 year average population growth rate of respectively 0.84%, 42.72%, 2.47%, 3.72%, 2.72% and 3.87% inform the total population for the case study areas in 2021. The 15-year growth rate for Misgund is substantially high, at a 15-year growth rate of 42.71%. Therefore, the average rural growth rate of Agisanang and Ganyesa was used to determine a more realistic growth rate for Misgund. Therefore, a growth rate of 1.65% for Misgund is chosen.
Citation	Quantec. 2021. EasyData. https://www.quantec.co.za/ Date of Access: 11 January 2022. [Database].

Rural Low-Income Settlement	Projected Population				Urban Low-Income Settlement	Projected Population			
	1996	2001	2011	2021		1996	2001	2011	2021
Agisanang	1680	1688	1905	2071	Jan Kempdorp	14005	16969	24220	34895
Misgund	2	2	415	14545	Ikageng	58666	70730	87701	114661
Ganyesa	13386	15422	19290	24610	Kanana	4428	4897	7830	11450
Misgund Average growth	2	2	415	489					

Low-income Settlement	Total Households			Growth Rate %			Projection 2021		
	1996	2001	2011	5 Years	10 Years	Average (15 Years)	5 Years	10 Years	Average (15 Years)
				1996-2001	2001-2011	1996-2011			
Agisanang	323	393	468	4.00	1.76	2.50	693	557	599
Misgund	1	1	132	-	62.95	38.48	132	17424	3422
Ganyesa	2 814	3 686	4 902	5.55	2.89	3.77	8411	6519	7097
Jan Kempdorp	3 067	4 417	6 522	7.57	3.97	5.16	13527	9630	10785
Ikageng	11 310	17 172	24 288	8.71	3.53	5.23	55990	34353	40428
Kanana	1 521	1 833	2 930	3.80	4.80	4.47	4255	4684	4536
Misgund average growth	2	2	415	-	2.33	3.14	415	522	565

Rural Low-Income Settlement	Projected Households				Urban Low-Income Settlement	Projected Households			
	1996	2001	2011	2021		1996	2001	2011	2021
Agisanang	323	393	468	599	Jan Kempdorp	3067	4417	6522	10785
Misgund	1	1	132	3422	Ikageng	11310	17172	24288	40428
Ganyesa	2814	3686	4902	7097	Kanana	1521	1833	2930	4536
Misgund Average growth	2	2	415	565					

Rural Low-Income Settlement	Projected Household Size			Urban Low-Income Settlement	Projected Household Size		
	Projected Population	Projected Households	Projected Household Size		Projected Population	Projected Households	Projected Household Size
Agisanang	2071	599	3	Jan Kempdorp	34895	10785	3
Misgund	14545	3422	4	Ikageng	114661	40428	3
Ganyesa	24610	7097	3	Kanana	11450	4536	3
Misgund Average growth	489	565	1				

Jan Kempdorp											
	km	meter	Households in 100m radius		Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)		
Shop A to Shop B	0.1	67	Shop A	87	A-B	33	Shop A	720	A-B	35	
Shop B to Shop C	0.3	271	Shop B	88	B-C	139	Shop B	887	B-C	138	
Shop C to Shop A	0.3	303	Shop C	99	C-A	147	Shop C	971	C-A	140	
Average Distance	0.2	214	Average Households	91	B-A	33	Average Households	859	B-A	32	
					C-B	131			C-B	132	
					A-C	157			A-C	163	
					Average	107			Average	107	
Ikageng											
	km	meter	Households in 100m radius		Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)		
Shop A to Shop B	0.2	218	Shop A	127	A-B	112	Shop A	960	A-B	98	
Shop B to Shop C	0.3	348	Shop B	143	B-C	198	Shop B	635	B-C	190	
Shop C to Shop A	0.2	247	Shop C	248	C-A	103	Shop C	927	C-A	125	
Average Distance	0.3	271	Average Households	173	B-A	106	Average Households	841	B-A	120	
					C-B	150			C-B	158	
					A-C	144			A-C	123	
					Average	135			Average	135	
Kanana											
	km	meter	Households in 100m radius			Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)	
Shop A to Shop B	0.1	100	Shop A	514		A-B	52	Shop A	2994	A-B	52
Shop B to Shop C	0.2	214	Shop B	607		B-C	90	Shop B	3621	B-C	108
Shop C to Shop A	0.3	263	Shop C	315		C-A	147	Shop C	3747	C-A	124
Average Distance	0.2	192	Average Households	479		B-A	48	Average Households	3454	B-A	47
						C-B	124			C-B	106
						A-C	115			A-C	139
						Average	96			Average	96
Agisanang											

	km	meter	Households in a 100m radius		Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)	
Shop A to Shop B	0.1	83	Shop A	52	A-B	42	Shop A	522	A-B	42
Shop B to Shop C	0.2	169	Shop B	56	B-C	86	Shop B	527	B-C	87
Shop C to Shop A	0.2	247	Shop C	61	C-A	119	Shop C	604	C-A	119
Average Distance	0.2	167	Average Households	56	B-A	41	Average Households	551	B-A	42
					C-B	83			C-B	82
					A-C	129			A-C	128
					Average	83			Average	83

Misgund										
	km	meter	Households in 100m radius		Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)	
Shop A to Shop B	0.3	297	Shop A	32	A-B	187	Shop A	334	A-B	163
Shop B to Shop C	0.1	107	Shop B	92	B-C	52	Shop B	500	B-C	54
Shop C to Shop A	0.3	347	Shop C	83	C-A	133	Shop C	516	C-A	155
Average Distance	0.3	250	Average Households	69	B-A	110	Average Households	450	B-A	134
					C-B	55			C-B	53
					A-C	214			A-C	193
					Average	125			Average	125

Ganyesa										
	km	meter	Households in 100m radius		Sphere of influence (100m)		Households in a 300m radius		Sphere of influence (300m)	
Shop A to Shop B	0.5	526	Shop A	12	A-B	318	Shop A	113	A-B	255
Shop B to Shop C	0.1	112	Shop B	28	B-C	57	Shop B	101	B-C	56
Shop C to Shop A	0.6	561	Shop C	29	C-A	220	Shop C	98	C-A	291
Average Distance	0.4	400	Average Households	23	B-A	208	Average Households	104	B-A	270
					C-B	56			C-B	56
					A-C	342			A-C	271
					Average	200			Average	200

ANNEXURE B: Ethics Approval Letter of Study



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ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Faculty of Natural and Agricultural Sciences Ethics Committee (FNAS-REC)**, the Faculty of Natural and Agricultural Sciences Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SCRE) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: The spatial distribution of spaza shops in rural versus urban low-income settlements.																
Study Leader/Supervisor: Ms GS Cornelius																
Student: H Theron																
Ethics number:		N	W	U	-	0	0	5	4	4	-	2	1	-	A	9
		Institution			Study Number						Year		Status			
Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation																
Application type: Single								Risk Category: Minimal								
Commencement date: 01/02/2021																
Expiry date: 30/09/2023																
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.																

Special in process conditions of the research for approval (if applicable):

- The following documentation are archived by FNASREC and should be complete and kept up to date:
 - Research proposal
 - Signed approval from the scientific committee indicating the proposed risk category
- All researchers involved in the study should submit signed NWU code of conduct statements annually.
- All researchers of low risk studies should submit proof of relevant ethics training every two years.
- All researchers that take part in activities that pose a safety and security threat to the researchers or the environment should submit a risk assessment form annually.
- All research involving human interaction should follow best ethical practise and keep documents as proof. This includes informed consent, questionnaires, incorporation of risk-benefit, and responsible data management.
- Any research at governmental or private institutions, permission must still be obtained from relevant authorities and provided to the FNASREC. Ethics approval is required BEFORE approval can be obtained from these authorities.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the FNASREC:*
 - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
 - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the FNASREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-SCRE and FNASREC reserves the right to:*
 - *request access to any information or data at any time during the course or after completion of the study;*
 - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
 - *withdraw or postpone approval if:*
 - * *any unethical principles or practices of the study are revealed or suspected;*
 - * *it becomes apparent that any relevant information was withheld from the FNASREC or that information has been false or misrepresented;*
 - * *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
 - * *new institutional rules, national legislation or international conventions deem it.*
- *FNAS-REC can be contacted for further information or any report templates via Roelof.Burger@nwu.ac.za 018 299 4269*

The FNASREC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the FNASREC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,



Prof Roelof Burger
Chairperson Faculty of Natural and Agricultural Sciences Ethics Committee (FNASREC)

RUAN FOURIE

Certificate of editing

THE SPATIAL DISTRIBUTION OF SPAZA SHOPS IN RURAL VERSUS URBAN LOW-INCOME SETTLEMENTS

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