

Exploring Expected Roles and Responsibilities of Waste Pickers and Homeowners in the Waste Picker Integration Process: A Case Study

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Abstract

Informal waste collection in South Africa is carried out by some of society's most vulnerable individuals. Their work often operates in middle- and upper-class areas, where many homeowners have been found to hold negative perceptions towards street waste pickers and their work. In this relationship, homeowners have the ability to not allow waste pickers to access recyclables by withholding waste or closing off communities to waste pickers. Recently, it has become an important aspect of advocacy for waste picker integration in South Africa to include waste pickers in formal waste collection systems and the overall recycling value chain. This would involve including waste pickers in planning and decision-making and as active stakeholders in these two systems. The tension found in the relationship between waste pickers and homeowners is a potential barrier to waste picker integration, and could go as far as to exclude waste pickers from waste management systems and the recycling chain entirely. The perceptions and expectations of both waste pickers and homeowners of what roles and responsibilities each party plays in contributing to waste systems could offer insight into how a more effective integration process can be brought about.

This study focuses on the relationship between waste pickers and homeowners in an upper-middle-class area of Cape Town, and what perceptions and expectations there are between the two groups. An exploratory qualitative with some quantitative aspects was the approach with a case study design was used for this research. The sample was made up of 15 homeowners and 15 waste pickers, with the homeowners receiving a different questionnaire than the waste pickers. The data collection was done through a phased participatory approach. Both groups first participated in an unstructured questionnaire, which then informed the semi-structured questionnaires used in the interviews with participants. The data was then analysed through a thematic analysis and a framework of social constructionism, identifying the common themes used by both groups to frame their perceptions and expectations of informal waste collection and their relationship with the other group. Four main themes emerged from the data, namely: motivation for waste picking and recycling; experiences of vulnerability; solutions; and appreciation. It was found that some of the greatest barriers to integration could be contrasting motivations for recycling between the two groups, and the lack of a communication and knowledge sharing pathway between the groups. Opportunities for improved integration could be to explore effective communication pathways between the groups.

Plagiarism Declaration

This research is my own work, and it has not been used in any other submission for any other degree. Plagiarism is wrong, and it is the act of using another person's work and presenting it as their own. Contributions from others' work, including quotations have been attributed and cited and referenced. I have not and will not allow others to use my work with the intention as presenting it as their own work.

Signature:

Date: 07/08/2023

Signed by candidate

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Chapter 1: Introduction

1.1 Background and Motivation for Research

Waste pickers in South Africa are semi-skilled and not formally employed workers who earn very little for collecting recyclables, and suffer difficult living and working conditions from lack of integration into formal waste management systems as well as a lack of integration into the recycling value chain (DEFF and DSI, 2020). Part of integration includes forming trust with communities where street waste pickers collect their goods. There is not a significant understanding of the relationship between waste pickers and homeowners, and how this may affect waste picker integration, which may include significant barriers or opportunities for effective waste picker integration. This problem can be understood in terms of the context that waste pickers are working in. In the market economy, livelihoods can be earned through selling goods and services. When selling goods, the by-product of packaging that is discarded from used products becomes solid waste. As an economy grows, so does waste accumulation and landfills where waste is discarded (Kaza et al., 2018). In 2016, the World Bank's "What a Waste 2.0" report found global municipal solid waste accumulation to be at 2.01 billion tonnes annually, and estimated that it would grow to 3.40 billion tonnes annually by 2050 (Kaza et al., 2018). Waste management therefore becomes an increasingly pressing and complex issue as the global economy grows to meet the world population's demands (Kaza et al., 2018). Globally, 40% of waste, including organic waste, is estimated to go to landfill, and only 13.5% of recyclable waste is recovered for recycling (Kaza et al., 2018). Using the most common waste management system of waste-to-landfill can result in environmental pollution, loss of resources and human health violations, to name only a few (El-Fadel et al., 1997). Recycling is a useful solution that keeps solid materials inside the value chain for the reuse of waste products (Schenck et al., 2018), and informal waste pickers play a vital role in recycling worldwide. In developing and low-income countries, it was found in 2010 that 50–100% of recycling is done by informal waste pickers (UN-Habitat, 2010), and there are estimated to be around 15 million waste pickers in the world (Medina, 2008).

In South Africa, there are an estimated 60 000–90 000 informal waste pickers, but this is a conservative figure (Godfrey et al., 2016), and waste pickers have been playing a hugely significant role in the country's recycling sector for many years. Waste pickers' work in South Africa is estimated to contribute 80–90% of the overall post-consumer paper and packaging recycling activity (Godfrey et al., 2016). In 2017, waste pickers were found to be responsible

for 51% of paper and packaging that was collected (Godfrey, 2021; Godfrey and Oelofse, 2017). This has come about largely because it is difficult for the recycling industry to access waste streams, and the relative low cost benefits of recycling in comparison to landfill methods for municipalities (Godfrey et al., 2016). Waste pickers are able to gain access to waste from landfill sites and kerbside bins, and thus fill the gap by providing recycling services in many commercial and residential areas when there are none available or none that are affordable (Godfrey et al., 2016). There are few formal recycling schemes in South Africa, and waste pickers are not supported other than by a few partnerships with certain public and private groups (Vryenhoek, 2016). Poor management of waste can result in pollution that further contributes to climate change (Medina, 2010), and waste pickers play an important role in the waste management process by filling the gap where municipal waste collection is not mandated to collect and responsibly discard recyclables (DEA, 2011).

Integrating waste pickers into formal waste management systems would thus be an effective way of building on waste pickers' knowledge and expertise in order to roll out mandated recycling in South Africa (DEFF and DSI, 2020). Waste picker integration would involve ensuring that waste pickers are key contributors to recycling plans and programmes rolled out throughout the country, and that meaningful partnerships are developed between waste pickers and the formal waste management systems that already exist as well as with the recycling value chain (DEFF and DSI, 2020). Integration would also provide an opportunity to improve the working conditions faced by waste pickers, such as frequent close contact with hazardous materials, physically exhausting requirements to push heavy materials over long distances and very little pay to ensure their survival (Yu et al., 2020).

In some developing countries, such as Brazil, waste pickers are an integral part of waste management systems and provide support to the recycling economy because there are policies and programmes that allow this (Gutberlet, 2015). South Africa introduced the "Waste picker Integration Guideline" in 2020 to implore municipalities to improve on their integration of waste pickers into waste management programmes (DEFF and DSI, 2020).

In South Africa, it is estimated that waste pickers save the country between R300 million and R750 million a year in landfill space (Godfrey et al., 2016). In 2011, the National Waste Management Strategy (NWMS) committed to "[providing] guidance to municipalities and industry on measures to improve the working conditions of waste-pickers" (DEA, 2011:27).

These guidelines were updated in 2020 with considerable emphasis on waste pickers and on encouraging the practice of separation at source¹ to aid waste pickers' work and to promote moving waste away from landfill (DEFF and DSI, 2020). The NWMS outlines that by 2020 there should be guidelines developed for waste picker integration; by 2021 all metros should have integration programmes in place; by 2024 all secondary cities should have integration programmes in place; and by 2024 there should be 500 jobs created for waste pickers, prioritising women, youth, and those with disabilities (DEFF, 2020a). Current policy also recommends furthering the implementation of the Extended Producer Responsibility (EPR) regulations (DEA, 2011). EPR is a policy tool used to shift the responsibility of how solid waste is managed, onto the producer (Arp, 2021). This means that producers will be incentivised to design products in a way that ensures less harm is brought about when waste streams reach their end of life. This is done by designing packaging (and other mandated waste streams) to be re-used or recycled in most cases (Arp, 2021). The EPR regulations were to be implemented by May 2021, where responsible parties were expected to have registered with the department by this time (DEFF, 2020b). It also states that the producer's organisation is obliged to integrate informal waste pickers into the post-consumer value chain, as well as to compensate pickers for their services if they are registered with the national registration database, which was planned to be implemented by November 2022 (DEFF, 2020b). There have been slow strides towards this throughout South Africa, with success in Cape Town where pickers have been registered through the African Reclaimers Organisation and the World Wide Fund for Nature South Africa (WWF South Africa) (WWF, 2022).

The way in which waste picker integration is approached has changed from focusing only on formalisation and on providing charity to waste pickers to recognising waste pickers as partners in and contributors to decision-making and planning in waste management systems (DEFF and DSI, 2020), and a more systematic approach wherein waste pickers are organised through various programmes (DEFF and DSI, 2020). The "Waste Picker Guideline for South Africa" (DEFF and DSI, 2020) was developed with the intention that integration should focus on "waste picker participation in the design, implementation, evaluation and revision of integration initiatives" (DEFF and DSI, 2020:26). As the former Minister of Environmental Affairs noted, the waste pickers "are the people who have expert knowledge of the recyclables

¹ Separation at source is the act of separating waste streams at the first point where they are discarded so that they can be collected for recycling (Samson et al., 2022).

they deal with and would add a lot of value if they are to be considered whenever new recycling facilities are being developed” (Molewa, 2016). Viewed from a neoliberal stance, waste pickers in South Africa have been able to create work for themselves where there is high unemployment and virtually no support from the state (Samson, 2009).

There are two key parts to integration: first, the integration of waste pickers themselves in implementing and improving their separation-at-source systems, and second, the integration of the waste pickers’ informal waste collection system with formal waste management systems and those in the recycling value chain (DEFF and DSI, 2020).

Integration is important because waste pickers are some of the population’s most vulnerable workers (Gutberlet and Uddin, 2017; Yu et al., 2020). Research suggests that waste pickers suffer from negative social stigma and are often exploited for their work (Gutberlet and Carenzo, 2020; Schenck and Blaauw, 2011). This is a result of waste pickers working for themselves in unofficial roles, thus not being formally recognised for the work they do.

Street waste pickers often operate in wealthier areas, in order to find greater accumulations of waste that can be sold at buy-back² centres for a higher price (DEFF and DSI, 2020). However, problems often arise in communities where there is a large wealth and social gap between residents and waste pickers, and where communities have the means to block waste pickers from retrieving waste (BMRA, 2021). This essentially blocks waste pickers from earning an income. In some areas of Cape Town, for example, residents have described waste picking as “an intrusion and security risk as those who have to leave home for their workplace in the early hours fear that their properties could be targeted for break-ins causing undue trauma” (Constantiaberg Bulletin, 2021). Communities have also voiced concerns in local newspapers about the mess created by the waste pickers who use certain public spaces to sort and separate the waste to take to buy-back centres (Constantiaberg Bulletin, 2021). There is some evidence of possible tensions between the two groups, but little direct communication between the waste pickers and community members. As Schenck and Blaauw describe in a study on waste pickers in Pretoria, “No real interactions [between waste pickers and the community] other than church-run feeding schemes could be determined” (2011:428). An article on News24, sourced

² A buy-back centre is a privately owned business that operates to temporarily collect recyclables and pay individuals cash for the amount they bring (Viljoen et al., 2019).

from a free community newspaper, describes a local councillor in Rondebosch as having the view that waste pickers are self-interested in doing this work and that it should not be encouraged because “Almost all of them have substance abuse problems and need help to get off the streets, not to be sustained and kept on the streets” (Viljoen, 2022). It is suggested that formal recycling mechanisms should be instituted instead, ensuring that waste pickers cannot continue their work. Many of these negative perspectives on waste pickers are in favour of limiting waste pickers access to waste which will in turn cut off their only chance to earn a livelihood. The answer to how they will earn an income to survive when they can no longer access waste, is uncertain.

Studies have explored waste pickers’ socio-economic circumstances, yet there has been limited research on the community members in South Africa on whom the waste pickers rely on to put out their rubbish bins to collect recyclables. The existing research on this topic in South Africa is based in the Gauteng region of the country (Samson et al., 2022; Pholoto 2018; Kadyamadare and Samson, 2023). Understanding the waste generators’ perspective is an important factor in the integration process, as the waste pickers rely on the individuals and organisations creating waste streams for their income (DEFF and DSI, 2020). Consumers play a role in creating waste streams, and are arguably required to become more responsible for the way in which their own waste streams are managed (Medina, 2010). In Samson’s (2009) study on a landfill in Metsimaholo, Free State Province, it was found that an initiative named “Ditamateng Recycling Project” run by waste pickers proposed that the municipality should encourage households to complete separation at source, indicating that waste pickers are in favour of working with community members and cooperating with municipalities. The accumulation of waste in the environment places a responsibility on those who create the waste streams to understand the impact of their waste, which arguably includes collaborating with or at least taking into consideration informal waste pickers.

Waste pickers have made it possible for consumers in South Africa to continue discarding their waste in the same, arguably somewhat careless manner they are accustomed to, without necessarily needing to consider recycling or waste pickers. This work becomes increasingly difficult for the waste pickers when having little communication with consumers and homeowners. Pickers have been reported saying that they believe they are viewed as scavengers by government and the public, even though they carry out an important environmental conservation activity, at no cost to the public or private spheres (Samson, 2019;

Schenck and Blaauw, 2011). In order to ensure that the work of waste pickers can not only continue but also improve in terms of their health and safety, sufficient communication between the groups producing waste and the groups collecting the waste could lead to positive outcomes. In their study on waste management in Alexandra, Johannesburg, Kubanza et al. (2022) found that community participation is vital in the process of solid waste management. Based on their findings, Kubanza et al. assert that community participation is needed in order to meet the needs of the community (Kubanza et al., 2022). This research highlighted an important and widespread issue in waste management, in which both local municipalities and local communities are not taking responsibility for waste management, with each believing that the other party needs to take more initiative. The research found that, in order for waste management initiatives to be effective, both the local community members and local municipalities need to take action, as well as to communicate effectively between them, in order to simplify the issues that become complex problems in waste management (Kubanza et al., 2022).

Using this research to explore what expectations and perceptions are currently held by homeowners could therefore help to establish a more regular system of both informal and formal waste collection that homeowners approve of and willingly participate in. This is of crucial importance because waste pickers' financial and material circumstances are generally unstable and difficult, and their work supports their daily income in order to survive. By exploring the perceptions and expectations of the waste pickers, the results of this research could also help waste pickers to improve their working conditions and their relationships with the homeowners whom they rely on for their income. This study does not aim to find solutions to effective communication between the two groups, but to understand where there are opportunities or barriers in the interactions between the waste makers and the waste collectors. This forms a significant part of the greater waste picker integration process in solid waste management systems in Cape Town and South Africa.

1.2 Delineation/Demarcation of the scope of the study

This research chose the City of Cape Town as the metropolitan area where the data could be collected. According to South Africa's most recent census in 2011, City of Cape Town has the second biggest population amongst major South African municipalities, after City of Johannesburg, making it an important urban area to research in urban waste management in South Africa (Statistics SA, 2011). As previously mentioned, this area has also not been

researched in terms of homeowners perspective in waste picker integration, and provides valuable insights into the relationship between these two groups in South Africa for waste picker integration. Within the City of Cape Town, the area that was identified through online research as having interactions between waste pickers and homeowners was Bergvliet, in the Southern Suburbs of Cape Town (BMRA, 2021). The areas of Meadowridge and Kreupelbosch were included as they are neighbouring suburbs, and homeowners in the study were eager to participate and be included in the study. The homeowners had to be over the age of 18, and could have previously lived in these areas, or was currently living in these areas. The waste pickers had to have had experience working in these areas and had to be over the age of 18 to be included in the study. The field work was conducted from February 2022, including scoping visits, and interviews were completed with homeowners and waste pickers from April 2022 until June 2022.

1.3 Aim of the Research

The aim of the study was to explore the perceptions and expectations of both the homeowners and the street waste pickers in their roles in waste picker integration, therefore identifying possible barriers and opportunities for the integration process.

The waste pickers ensure that the biophysical landscape is not overburdened with waste and contribute to effective recycling mechanisms where there are no formal ones in place, and the community members provide a means for the pickers to make a living. Each group therefore has something to gain from the other, and gaining a better understanding of the perceptions and expectations of both parties can make the integration of informal waste pickers into waste management systems much easier.

1.4 Objectives

The research has five main objectives. These are:

1. To explore the role of waste pickers in the recycling economy in Cape Town as perceived by the waste pickers.
2. To determine the issues in collection and management of solid waste from municipal services in the given suburb.
3. To investigate the homeowners' perceptions and expectations of the waste pickers regarding solid waste management.
4. To explore the waste pickers' perceptions and expectations of the homeowners

regarding solid waste management.

5. To determine perceptions of both groups in terms of opportunities and barriers for waste picker integration in residential areas.

1.5 Chapter Summary

This chapter introduced the background to the research, the delineation of the study and the motivation for conducting the study. Waste management is a pressing global issue that continues to worsen as economies and populations continue to grow. Waste pickers are often excluded from the formal economy and rely on this precarious source of income for survival. Taking the economic, social, and environmental dimensions of sustainability into consideration, integrating waste pickers into the waste management system would be a sustainable approach to waste management. The chapter also introduces the aim and five objectives of the study.

Chapter 2: Literature Review

2.1 Introduction

This chapter gives an outline of the relevant current literature in this field. The study is unique in exploring the perceptions of homeowners in addition to those of waste pickers in Cape Town. Currently, other research covering similar grounds in South Africa, are Samson et al.'s (2022) study on identifying the different approaches and perspectives on waste management by residents, Pholoto's (2018) thesis on residents and waste pickers in Sasolburg and lastly Kadyamadare and Samson's (2023) research which contributed to Samson et al.'s 2022 study. All mentioned studies were based in the Gauteng region. The chapter discusses studies on informal waste collection in international contexts, and the ways in which waste management problems are addressed in different developing countries. This is then brought back to a local level, and relevant literature on waste management systems in sub-Saharan Africa and South Africa is discussed to provide context on the systems that waste pickers work within. Literature on integration and waste pickers in South Africa is then brought to light in the next section. Community perceptions of informal waste collection are also presented, and thereafter the definition, challenges, and issues of solid waste in South Africa are discussed. It was also important to include literature on South Africa's history of recycling, as well as research on waste picking and sustainability. Lastly, the theoretical framework used for the study is described at the end of this chapter.

2.2 Waste pickers on a global scale

Informal waste collection is a phenomenon found in many developing countries across the world. Comparing research into waste management systems in developing countries provides useful insight into the similarities across regions and contexts, and can help to improve initiatives and plans for waste picker integration in general.

For example, in one study, a review of barriers and success factors for formalisation was carried out in municipalities in the Philippines, Brazil, Colombia, Peru, India, Kenya, Zambia, Tanzania, Honduras, Egypt, Bangladesh and Indonesia (Aparcana, 2017). The study found that many waste pickers in these regions had undergone some kind of formalisation of their work, although failure of this process occurred due to unaddressed issues in policy or legislation and due to economic and social issues, which are often country-specific (Aparcana, 2017). This is an indication that attempting to formalise the work of waste picking has been unsuccessful in

many circumstances across the globe (Aparcana, 2017). The study notes that a one-size-fits-all approach cannot work and there needs to be consideration of country-specific circumstances in order to address the correct issues within informal waste picking (Aparcana, 2017). In fact, it has been found that formalisation is not recommended as an approach to the waste picker integration process, as this has the potential to take away agency and interest from the waste pickers (DEFF and DSI, 2020). Aparcana's (2017) study suggests a compelling alternative to formalisation: to empower waste pickers as a possible key to success in improving the informal waste system overall. The research is clear in showing that policy can often miss the issues "on the ground" when implementing measures such as creating cooperatives for waste pickers, organising waste pickers into micro and small enterprises or contracting waste pickers to work in the formal waste management system (Aparcana, 2017). Policy may also be missing the interests of other stakeholders such as the homeowners or other consumers who put out their waste for collection. Top-down approaches often do not include various stakeholders in the formalisation or integration process. Research based on waste pickers in Latin American countries such as Brazil and Argentina have contributed greatly to the formulation of the South African integration guidelines (DEFF and DSI, 2020). Many waste pickers in these regions have organised into groups and cooperatives. In South Africa, this has been a much slower process; the South African Waste Pickers Association was established in 2009 (SAWPA, 2020) and the African Reclaimers Organisation (ARO) was established in Johannesburg in 2018 (DEFF and DSI, 2020; Gutberlet et al., 2017).

Gutberlet (2015) describes the work of the waste pickers in Brazil as "urban mining", wherein the waste pickers collect valuables that would have otherwise gone to waste, at a loss to the economy, and reintroduce these back into the economic system. Waste pickers' cooperatives are supported in Brazil through legislation, in that Brazil has policy and committees in place that are dedicated to logistics in reversing solid wastes from disposal (Gutberlet, 2015). Support systems differ between municipalities, but in some Brazilian municipalities waste pickers are given dedicated spaces to sort their recyclables and are even paid for their collection services (Gutberlet, 2015).

In Colombia, the struggle for waste pickers' rights has been taken as far as to their constitutional court, which has resulted in pickers being recognised for their position as vulnerable workers (Dias, 2016). They are also entitled to payment for their services of collection and separation of wastes (Dias, 2016). In India, the first cooperative owned and

managed by waste pickers themselves was formulated in 2006 (WIEGO, 2012, in Dias, 2016) and part of the integration of the cooperative into waste management systems included the provisions of equipment, working space, legal authorisation and the right to charge for services. These success stories come with new challenges faced by the waste pickers in terms of social acceptance and recognition for the work that they do (Dias, 2016).

2.3 Waste management systems in Sub-Saharan Africa and South Africa

Understanding the issues in waste management systems in southern Africa is important for framing the problems faced by waste pickers and homeowners in the integration process. Sub-Saharan Africa is expected to undergo a rapid population growth of approximately 2.9 billion by 2100 (Bhorat et al., 2017). This will mean a significant rise in economic activity, inevitably resulting in the higher use and consumption of plastic products (Ayeleru et al., 2020). Ensuring that proper systems are in place to manage these waste streams becomes highly important.

The South African Waste Act, 2008 forms part of the National Environmental Management: Waste Act (NEMWA), 2008 (No. 59 of 2008) (Republic of South Africa, 2008). The act was formulated mainly in concern for the protection of health and the environment, as well as in response to numerous other waste-related concerns (Republic of South Africa, 2008). However, responsible management of waste has yet to become a reality, as it has been quantified that 90% of plastic generated specifically in South Africa is still accumulated at landfills (DEA, 2012). These figures have recently been contested, as there are different reports on the recycling rate in South Africa. A published industry report by PlasticsSA from 2017 indicated that 43.7% of South Africa's plastic is recovered (PlasticsSA, 2018). South African research experts in waste management responded critically to this report, noting that these numbers represent the input of recycling materials, and if considering the output of manufactured products, it is likely that the percentage of materials recovered is around 17% (Von Blottnitz et al., 2018:2).

South Africa's history of recycling and formalised waste management has the potential to be developed in line with the current needs of South African society. Godfrey and Oelofse (2017) carried out a review on the history of waste management and recycling in South Africa, categorising the way in which waste management has progressed. Landfills are currently the most popular form of waste management in the country. The historical waste management review found that the national focus on waste management has moved in stages: "The Age of

Landfilling” to “The Emergence of Recycling” to “The Flood of Regulation” to “The Drive for EPR” (Godfrey and Oelofse, 2017). South Africa is currently at “The Drive for EPR” stage, before the next era of recycling, which Godfrey and Oelofse have termed “The Future is a Circular Economy” (Godfrey and Oelofse, 2017).

The circular economy approach to solid waste has gained much momentum in research; Kirchherr et al. (2017) analysed 114 definitions of the circular economy. It was found in their analysis that the most common definitions of “circular economy” all include the terms “reduce”, “reuse” and “recycle” (Kirchherr et al., 2017). In terms of South Africa’s progress to “The Future is a Circular Economy” from “The Drive for EPR” (Godfrey and Oelofse, 2017), there is still much work to do. In 2011, it was determined that around 90% of general waste in South Africa goes to landfill (DEA, 2012). Despite this, in 2015 it was estimated that paper and packaging recyclables in South Africa were generally being recovered for recycling (Godfrey and Oelofse, 2017:5). In a country where there are little to no formal recycling initiatives in place, this high recycling rate can be attributed to the work of waste pickers (DEFF and DST, 2020). In South Africa’s 2018 *South Africa State of Waste* report, plastic and paper waste were estimated to make up 13% of general waste generated in the country (DEA, 2018:18).

South Africa’s current approach in moving towards a circular economy is to place responsibility of circularity in the hands of the producers making, selling, and distributing products with packaging material. As mentioned in the introduction, this is called the “Extended Producer Responsibility” or “EPR” scheme, as also noted in Godfrey and Oelofse’s (2017) research. Godfrey et al. (2016) have identified how EPR regulations could also have the potential to exclude waste pickers from the value-chain of recycling. If all recycling activities are designed without including waste pickers as part of the recycling and re-use value chain, waste pickers will lose their means to a livelihood, and this in turn will drive tens of thousands of people further into poverty. Examples of a recycling economy that exclude waste pickers is for recycling contracts to be given to commercial companies who hire salaried employees, thus competing with the informal sector for the collection of recyclables (Godfrey et al., 2016). South Africa is encouraged to look at examples from other countries that have successfully integrated the informal sector into waste management in the form of cooperatives and SME’s (Godfrey et al., 2016). The mean income of the waste pickers in some research studies has been found on a typical day to be R124, with the lowest reported number being R13

on a bad day (Yu et. al., 2020). If EPR is designed to include waste pickers as part of the recycling value chain, there is potential to improve their income as part of the process and improve the lives of people working in this sector. Waste pickers have been identified as great contributors to waste management in South Africa; as found by Godfrey (2021), informal recycling initiatives brought between R383 million and R882 million to buy-back centres in 2012 alone.

2.4 Waste Picker Integration in South Africa

The approach of waste picker integration in South Africa is important given the country's large number of waste pickers (Godfrey et al., 2016). Integration seeks to ensure that vulnerable workers have the chance to continue working in their roles and contribute meaningfully as stakeholders in waste management systems. This study focuses more particularly on street waste pickers, a group that, in the Free State Province of South Africa, was found to earn considerably less than landfill waste pickers (Schenck et al., 2016). In Cape Town, waste salvation is not permitted at landfill sites, meaning waste pickers rely on street bins for their income (City of Cape Town, 2022). Integration for street waste pickers is likely to have more complexity than integration for landfill waste pickers, given that the nature of the work is not confined to a single location, and there are many more community interactions with different stakeholders in the waste management process.

An example of a successful waste picker integration strategy for street waste pickers in South Africa is ARO in Johannesburg (DEFF and DSI, 2020). ARO is a democratic organisation whose membership is comprised of waste reclaimers³ in the city (Sekhwela and Samson, 2019). The organisation was formed to work against separation-at-source programmes for recyclable waste that would deprive waste pickers of their income (Sekhwela and Samson, 2019). The organisation seeks to curate programmes that work from the bottom up, wherein the reclaimers are playing the directing role in developing the programmes for separation at source (Sekhwela and Samson, 2019). The organisation represents the established roles that waste pickers play in South African society, and promote the belief that programmes are likely to be more successful when giving agency to the workers on the ground.

Research focusing on buy-back centres in Cape Town found that there are an estimated 3 000

³ 'Waste reclaimers' is a term used interchangeably with 'waste pickers' (Samson et al., 2022).

waste pickers that contribute to the waste collected at 44 buy-back centres in the Cape Town area (Davison et al., 2021), although, some waste pickers may contribute waste to more than one buy-back centre. These numbers are also not an accurate representation of the whole Cape Town area as only 44 of the 53 buy-back centres in the study responded to this question.

Integration and acceptance of waste pickers into communities can come with difficulties. A study in Johannesburg focused on the challenges faced by waste pickers at an institutional level, and how more consideration for the waste pickers could improve the system as a whole (Dlamini and Simatele, 2016). In Dlamini and Simatele's (2016) research, it was found that 37% of participants faced harassment from the public. A study on waste pickers in Belville in Cape Town identified that waste pickers understandably do not like the aspects of their work that involve being treated badly by other people (Yu et. al., 2020). In this study, 78% of waste pickers noted that the most enjoyable aspect of their work is that it provides them with an income (Yu et. al., 2020).

In Brixton, Johannesburg, ARO has been successful in building positive relations with community members within pilot projects, wherein homeowners were reported welcoming waste pickers into the area with tea and snacks after implementing small changes to the way that they work (DEFF and DSI, 2020). These changes included providing personal information about who the waste pickers were on stickers that were placed on rubbish bags, and working with community members on effectively carrying out separation at source (DEFF and DSI, 2020). Positive results from this programme found that good relationships between waste pickers and community members lead to quicker collection time for the pickers, as well as an improvement in their level of income (DEFF and DSI, 2020). The project resulted in more personal relationships being formed between homeowners and waste pickers, which resulted in a better standard of living for the pickers, partly due to easier working conditions (DEFF and DSI, 2020). Overall, the project led to a more positive relationship between the homeowners and the waste pickers (DEFF and DSI, 2020).

A study conducted on street waste pickers in Pretoria found that the waste pickers experienced the public's general attitude towards them as ranging from "scornful" and "indifferent" to "sympathetic" and "they give us food and money" (Schenck and Blaauw, 2011:428). Their relationship was defined by the waste pickers as one that is "removed", although there is a gap in the research as to the perceptions of communities towards the role of the waste pickers in

this regard.

Integration is a move beyond formalisation that should consider the vulnerabilities faced by groups of waste pickers in different environments. A global study on the coping mechanisms of waste pickers identified that female waste pickers in Africa, which included those in Durban, suffered threats and attacks of gender-based violence (Ogando et al., 2017). The study found that female waste pickers often suffer in a power struggle where male waste pickers use their dominance to gain access to the more valuable “pickings” (Ogando et al., 2017).

2.5 Challenges/Barriers to waste picker integration

Research across the globe has identified various on challenges and barriers to waste picker integration (Chikarmanne 2012, Samson 2020, Samson 2019, Calderón Márquez, A. J. et al. 2021, Mlotshwa et al., 2022). In Pune in India, waste pickers were challenged by private companies competing with their access to recyclables (Chikarmanne 2012). Contracting was considered as an option to integrate was pickers with private companies, but it could not be certain that fair and secure employment could be guaranteed (Chikarmanne 2012). Samson (2020) identified some of the previous shortcomings from integration attempts and what approaches are needed to improve meaningful integration. These shortcomings have come from approaching waste picker integration as an act of charity, from not including waste pickers as active participants in formulating integration plans, lack of multifaced view on waste picker integration, as well as only viewing waste picker integration as a utilitarian integration instead of social justice and transformation (Samson, 2020). In Colombia, for waste picker integration it has been found there needs to be appropriate policies in place to recognize pickers as part of the recycling value chain, and that when there is little regulation of these relationships, which is a barrier for waste pickers to have secure access to recyclables (Calderón Márquez, A. J. et al.). In a study on waste pickers in the city of Durban in South Africa (Mlotshwa et al., 2022), among various hazardous challenges that waste pickers face in their work, it was also found that they suffer negative social stigma which lead to verbal and physical harassment from civilians. This kind of marginalization of waste pickers is a huge barrier integration if society at large treats waste pickers with little respect, and do not value the positive contributions that the work brings to effective waste management practices, and an opportunity of employment.

2.5 Community Perceptions

In South Africa, there has been substantial research carried out on the perceptions held by waste pickers on their work and lives (Schenck and Blaauw, 2011; Schenck et al., 2018; Sekhwela and Samson, 2019; Sentime, 2011; Viljoen et al., 2018). This has provided valuable information on their lives and how they are active in the waste management system. In terms of the perception of community members and waste management systems, there has been substantial research on homeowners' perceptions of recycling, but not their perceptions of waste management in the informal waste economy.

In research on waste pickers, waste pickers often state that they are stigmatised by other members of society and have negative connotations attached to their appearance (Peres, 2016). Waste pickers in South Africa have reported that residents attach negative perceptions onto waste pickers, such as that they are "homeless criminals" (Peres, 2016:101) and that they are substance abusers and have low cognitive ability (Peres, 2016). Waste pickers have also reported more positive experiences of cooperation with residents who intentionally separate their waste for waste pickers (Peres, 2016). Okonta and Mohlalifi (2020) completed a study on residents in Johannesburg in which part of the research asks if residents prefer to give their waste to waste pickers, but there are no further questions related to their interactions with waste pickers. Dlamini et al. (2017) completed a study in the KwaZulu-Natal Province on community perceptions of municipal solid waste management systems, but did not include perceptions on waste pickers, focusing only on the operational factors of the system. In the study, it is important to note the high dissatisfaction rate (97%) of the community with municipal solid waste management systems (Dlamini et al., 2017). If there is a high level of activity from waste pickers throughout South Africa, it is likely that much waste is not being formally collected, or is not being disposed of properly. An important part of improving waste management systems, for the sake of public health and the health of the biophysical environment, is working with systems and improving systems that are already in place (Medina, 2010). The working knowledge of waste pickers therefore becomes a huge value addition.

As already mentioned, the most significant research contributions to residential and community perceptions with regards to recycling and the integration of waste pickers was by Samson et al. (2022), Pholoto (2018) and by Kadyamadare and Samson (2023). The 2022 study by Samson et al. found that programmes for separation at source exist extensively at a policy level but are still very much lacking on the ground (Samson et al., 2022). Pholoto identified how separation

at source programmes for separating recyclables need to actively include residents and waste pickers in the decision-making of these programmes. Importantly, Kadyamadare and Samson (2023) identified in their research that there is a need to revisit the meanings and definitions that are given to waste, and to separation at source in order to improve these initiatives and to improve relations with waste pickers and communities. Waste pickers are valuable, and the communities' contributions are valuable, especially in places where separation-at-source programmes are too expensive to implement. South African municipalities often do not have enough capacity to effectively carry out waste collection, especially in lower socio-economic areas (Ernstson et al., 2021). These communities are provided with the same number of bins for waste collection as higher-income areas, yet in South Africa there is a greater concentration of people living in these areas, meaning that municipality ideally needs to provide more waste service delivery to areas with higher population numbers who are generating more waste (Haywood et al., 2021). This has been a difficult task for waste service delivery in lower economic areas, often resulting in pollution and poor waste management practices in communities (Haywood et al., 2021). Community waste management can be considered an important solution in the waste economy, since communities benefit financially and physically from effective waste management (Ernstson et al., 2021).

2.6 Definitions of Waste

Waste means something different to each of the different parties involved in the waste management process. Waste is a source of survival to a waste picker, and waste is a discarded and unwanted end product for a resident. In this research, the waste discussed is that of “domestic waste” (Republic of South Africa, 2008), as described in NEMWA. This type of waste is defined as not including hazardous waste, and includes waste from purposes that are residential, educational, healthcare-related, sport-related, and recreational (Republic of South Africa, 2008) This type of waste also falls under the “general waste” category.

Understanding waste as a source of survival for waste pickers means changing the perception of waste from an end product to a resource material (Ernstson et al., 2021). Some argue that waste should be recognised under the “urban commons” (Dias, 2016:376). Literature that recognises waste in this manner views it as the responsibility of the government to put plans and procedures into place for how this common property is dealt with, but also contends that there are no owners of waste itself (Dias, 2016). When waste is thus valued as a resource material, there are many new complications that may arise. As already noted, the aim of

integration should not only be formalisation but rather a “systems approach” (DEFF and DSI, 2020). This is to reduce the risk of waste pickers losing their income if a more formal recycling system is implemented (Ernstson et al., 2021).

The ideas around what waste is and who has the right to access waste, either as an item of value or as an item needing to be discarded, inherently complicates the social context of waste and waste management. Kadyamadare and Samson (2023) identified this issue in their research on Johannesburg residents’ willingness to participate in separation at source programmes (2023). It was found that there is a need for societal change on what the definitions of waste are and needing society to see waste as a valuable resource, in order to improve separation at source initiatives (Kadyamadare and Samson, 2023). Some research suggests that waste pickers have made waste a valuable commodity in creating an economy of recycling through the need for survival, while also carrying out a hugely valuable asset to society (Samson, 2015). It is through these actions that the value in their work has been seen, but has not yet been outwardly recognised (Samson, 2015). Samson notes that “identity prejudice” and “identity power” have led to waste pickers being stigmatised as “scavengers” in contexts where private and public entities need access to the waste that pickers collect for a source of income (Samson, 2015). Waste pickers are therefore caught in a power struggle in which the concept of waste, and the very concept of a waste picker, can be formulated and defined by more powerful entities. In this way, epistemic injustice can take away a stakeholder’s ability to contribute to the official body of knowledge in a certain area (Samson, 2015). This is another reason why research on waste pickers’ perceptions is so important.

2.7 Recycling in South Africa

Recycling was first established in South Africa in the 1970s, with the first evidence of this being Collect-a-can, which first opened in 1976 (Nampak, 2002). A 1976 paper published by the Council for Scientific and Industrial Research (CSIR) on solid waste research in South Africa also suggests that there was recycling activity in numerous industries in the 1970s (Noble, 1976). The paper speaks to issues that were relevant to recycling in 1976, which are quite different to what the world faces at present. During this time, the material that had the greatest need for recycling were tyres (Noble, 1976). Today, this has dramatically changed, as plastic has become an extremely useful and highly in-demand product. In 2018, each South African was estimated to consume 36 kg of plastic per year (Sadan and De Kock, 2020). This amount is alarming, given that plastic waste has become difficult to contain within landfills

and that microplastics have many negative impacts on the environment, especially when considering the toxins that are absorbed into natural environments and the living species that ingest them (Sadan and De Kock, 2020). This is why it is important to advocate for the circular economy of plastics and to ensure that as little waste as possible makes its way into the environment.

Comprehensive studies conducted by the CSIR in 2010 and 2015 sought to understand the level of recycling activity that occurs in South African households (Strydom and Godfrey, 2016). Overall, the sample reported extremely low levels of recycling, even though there has been improvement over time (Strydom and Godfrey, 2016). In 2010, 4.0% of the sample reported carrying out dedicated recycling activity, which increased to 7.2% in 2015 (Strydom and Godfrey, 2016). However, as mentioned previously, researchers have estimated that around 17% of South Africa's plastic waste is recycled, with some estimates as high as 43.7% (Von Blotnitz et al., 2018). The low rates of consumers' or households' willingness to recycle compared to the high level of recycled material in South Africa can likely be attributed to the high amount of recycling activity carried out by waste pickers (Strydom and Godfrey, 2016), who recover recyclable materials even if households are not actively participating in recycling activities. Improvements in household recycling could therefore assist working conditions for waste pickers, or it could exclude them in the waste collection process if they are not actively part of the recycling value-chain.

2.8 Waste Picking and Sustainability

The work done by waste pickers has the ability to meet many of the Sustainable Development Goals (SDGs), set out by the United Nations in 2015 (Gutberlet, 2021). The overall aims of the SDGs are to end poverty and protect the environment by bringing social and environmental justice to all people (Gutberlet, 2020). Gutberlet (2021) explains how waste-picker cooperatives that have been formulated in Brazil contribute to the SDGs in a bottom-up approach, as they can be categorised as Social Solidarity Economies (2021). This economic approach differs from traditional approaches in capitalism, in that the ownership belongs to the workers (Gutberlet, 2021). This helps to ensure that workers are not exploited and that they can manage cooperatives in a way that makes sense for the workers. Gutberlet (2021) has determined that waste pickers are successful in contributing to the following SDGs: goal 1 (Poverty), goal 5 (gender equality), goal 8 (decent work and economic growth), goal 11 (sustainable cities and communities) and goal 12 (responsible production and consumption).

In South Africa, it has been found that waste pickers' motivation to carry out their work is usually not due to environmental reasons (Langenhoven and Dyssel, 2007, in Schenck and Blaauw, 2011; Samson, 2009). The outcome of waste pickers' work has a positive effect on improving environmental sustainability, but the motivations for their work are largely economic (Schenck and Blaauw, 2011). There are also unfortunate negative environmental effects that can be linked to the work of waste pickers, especially those who have no access to housing and are forced to get by in other ways, such as cooking on the pavements and making use of public spaces for sanitation (Schenck and Blaauw, 2011).

2.9 Theoretical Framework

The theoretical framework used in this research to analyse and interpret the data is social constructionism. The exploratory nature of the study made it appropriate to use theory to interpret the results, in order not to limit the scope of the study. Social constructionism was an important method in this research, as well as a theoretical framework. Using this as a method to allow the unique meaning that participants held in the results was important to recognize as lived and real experiences for participants. In social constructionism, the human world is understood as a socially motivated endeavour, wherein our own understanding and the perceived relevance of our experiences are based upon the way we socialise with those around us (Burr, 2003). Social constructionism differs from some other social theories in that the way in which the world is understood by individuals is seen not as a result of the singular traits of individuals, but rather through the significance of their experience in interaction with others (Burr, 2003). In other words, it is the interactions that people have with one another that hold the meaning in their experiences (Burr, 2003).

Theories like social constructionism are useful when exploring the epistemology that individuals develop to navigate through the world (Schenck, 2019). An epistemology is the way in which we know things and process information to formulate our inner knowledge and make decisions in our lives (Schenck, 2019). According to Berger and Luckman (1967), the process that we often take to understand our social world is to view it as something that happens externally to our minds, thus leading us to believe that ideas are pre-determined and remain concrete as well as somewhat outside of our control (Berger and Luckman, 1967). Social constructionism explains that our views on the social world are ones that we have created through continuous interactions with one another, and that the meaning that we derive from

our interactions are constructed in our own minds (Burr, 2003). Social constructionism seeks to move away from positivistic thinking, wherein judgements about certain phenomena are “proven” and there are always concrete truths to any given scenario (Schenck, 2019). Social constructionism does not view the way that people make meaning of their lives as a biological process, but rather a continuous process of reflection on their history, and of interactions with others (Lock and Strong, 2010). Social constructionism views knowledge and action as a holistic entity that continues to influence one another as well as shaping how the world is created and understood (Lock and Strong, 2010:2). The problems faced by humans have often been resolved through scientific endeavour, making our lives easier as well as advancing human innovation (Lock and Strong, 2010). However, using the same approach to grapple with the complex cultural and relationship issues that people face in the age of globalisation cannot account for the subjectivity of the human experience (Lock and Strong, 2010). This is also true for an issue as complex and widespread as waste management, which is why social constructionism is a useful approach when conducting research in this area.

Research into waste and the waste industry has made use of social constructionism to contextualise and explore the issues faced by stakeholders and participants in waste management (Albert and Olutayo, 2021; Yousafzai et al., 2020). As has already been suggested in this research, waste pickers’ socially constructed identities in their work as well as the stigma attached to their identities from those outside their work have been found to affect the difficulties they face and to further complicate the challenges of their work (Yousafzai et al., 2020). Self-identity is an important factor in determining the level of value and self-worth an individual feels in the contributions of their vocation (Yousafzai et al., 2020). This can be seen even in something ostensibly minor; for example, waste pickers’ lack of visual recognition in the form of an identifier, be it a badge or logo, to distinguish and recognise their work is a barrier to improved self-esteem (Yousafzai et al., 2020:8). The lack of recognition given to this kind of work is one of the ways in which socially constructed ideas around informal work marginalises waste pickers even further and makes social outcasts of them (Yousafzai et al., 2020).

Examining the socially constructed perceptions of waste generation and how it impacts society and nature can provide insight into how issues such as pollution arise in the waste sector (Albert and Olutayo, 2021). Waste generation is often described as a by-product of human activity, yet the scope of proposed solutions to waste-related problems is often limited to technical notions,

with the implicit assumption that it is outside the scope of social sciences (Albert and Olutayo, 2021). However, as seen in the case of informal waste pickers, our social world is interlinked with the technical world, where social practices are carried out and repeated to meet our physical and emotional needs. Viewing cultural practices and urban living practices as the drivers for waste generation can provide valuable insights to solutions for over-accumulation of waste in the world (Albert and Olutayo, 2021). Using a social constructionist approach to explore the perspectives of individuals' lived experiences regarding waste and waste management therefore has the potential to provide useful insights into the problems faced in this sector.

2.10 Summary

This chapter presented existing literature relevant to this study as well as introducing social constructionism, the theoretical framework used to analyse and interpret the research data.

Empowering waste pickers in the work that they do is an approach adopted by some developing countries to improve their conditions and relations with public services. Stigma still follows waste pickers, even when their work is established in parallel with the public sector. The level of waste accumulation in Africa is estimated to grow in the near future, along with a growing population and developing economy. These prospects of plastic pollution are concerning as the waste management systems on the continent are already strained.

In South Africa, empowering waste pickers could help alleviate the poor service delivery in rural and impoverished areas, as well as provide many low- and semi-skilled people with some kind of income for daily survival. Research has found that most of the recycling activity that occurs in South Africa is driven by informal waste pickers. However, waste pickers struggle with acceptance in the communities they work in and have little support in terms of policy around their work, although some research has found that community members prefer to give their waste to waste pickers and wish to help their work. In many studies, the opinions on waste management, recycling and informal waste collection seem to vary greatly.

The way in which waste is legally defined can also have an effect on those that rely on it for income, and a community approach to waste collection may be an effective way of solving waste issues. This could help a country like South Africa where, in a large research sample, it was found that only around 7% of people are committed to recycling. Waste picking has the

potential to increase social and environmental sustainability if those working in the sector are empowered.

Social constructionism can assist in exploring the socially constructed meaning that people make in relation to waste management, recycling, and the informal sector. For this reason, social constructionism is used as the theoretical framework for analysing and interpreting the data in this study.

Chapter 3: Research Methodology

3.1 Introduction

Durdella (2019) describes a research methodology to be chosen on the basis of appropriateness and feasibility of your research question and objectives. In line with this description, this thesis uses a case study design with qualitative and some quantitative data collection to meet the research objectives. Given that this study is exploratory in nature, with little previous research already done on homeowners' perception around informal waste collection, a case study design was chosen as an appropriate research approach. The quantitative data was used to augment the research, and the qualitative data was used as the focus of analysis and discussions. This section discusses these research methods, along with the methodology in exploring perceptions, using participatory methods, a scoping visit, pilot studies, how the sampling was done and data collection with unstructured and semi-structured virtual and in-person interviews. The data analysis methods are then discussed in the thematic analysis approach, which includes coding, ethical considerations, and reflexivity. Finally, the limitations of the study are presented.

3.2 Case Study Design

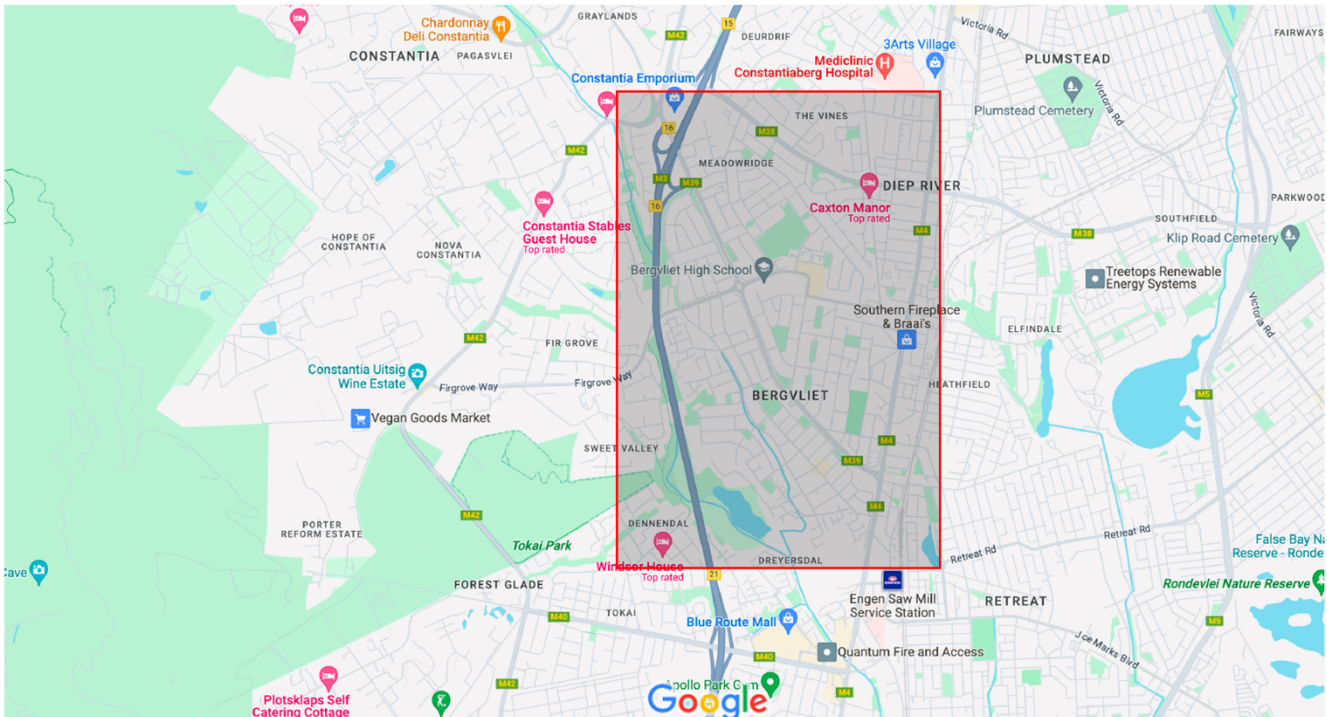
Spatial setting, intrusion of space and exclusion from space are important concepts to consider as part of the study. For research in human geography, it can be said "that spatial context matters to the conduct of social action" (Herbert, 2010:69). In understanding the significance of the space wherein the study occurs, it can help to understand the reasons for "social action" (Herbert, 2010:69) within that space. In thinking about space in this way, a case study method was adopted for the research. Case study research is a common research design that has been used in various studies on waste pickers (Barnes et al., 2021; Gutberlet, 2021; Langenhoven and Dyssel, 2007; Samson, 2009; Schenck et al., 2018; Schenck and Blaauw, 2011; Timm, 2015). Using this method thus contributes to previous research that has been conducted on similar topics, and makes it appropriate for drawing comparisons between the various studies. A case study design is also an appropriate method for a researcher in determining the questions of "how" and "why" for the research (Yin, 2018), which are both important questions to this study.

3.3 Case Study Area

The research ensured that a "natural setting" was used interviewing participants, following the

guidelines for qualitative research by Creswell and Creswell (2017). This means that the pickers were interviewed in the streets of the area being studied. There is evidence throughout Cape Town of waste pickers working in the streets, but it was important for the study to be certain that there was some sort of interaction between the two groups of participants, being the homeowners and the waste pickers. The Bergvliet/Meadowridge area was identified as an appropriate location for the case study. This area was chosen for the study because there is evidence on local online forums of waste pickers being present in the area, as seen from the Bergvliet/Meadowridge Rate Payers Association (BMRA) as well as articles posted on news bulletins and community groups about waste pickers, such as the Constantiaberg Bulletin (BMRA, 2021; Constantiaberg Bulletin, 2021). This is a relatively wealthy socio-economic area of Cape Town, meaning that the substantial wealth gap between waste pickers and homeowners could cause a large communication barrier for the integration process (Statistics SA, 2011). This also means that there was likely to be a higher accumulation of waste generated in the area, making it desirable for the waste pickers as they can get higher-value waste products. The study location is indicated to have an annual average household income of more than seven times the average annual income of the Western Cape Province, according to 2011 statistics (Statistics SA, 2011). The Bergvliet/Meadowridge area is in a reachable proximity to some of the poorer areas in Cape Town, where many of the waste pickers are likely to reside. Some of the surrounding areas, such as Lavender Hill (about 5 km away) and Hanover Park (about 13 km away), are recorded to have annual household incomes of around only R29 000, with employment rates of just over 30% and a large percentage of households reporting to have no income (Statistics SA, 2011). Waste pickers in Johannesburg have reported travelling two and a half hours to reach their waste sources, making travel distances to the Bergvliet/Meadowridge area a feasible assumption in this case (DEFF and DSI, 2020).

The red highlighted area on the map is the designated area for the study.



Map data ©2024 AfriGIS (Pty) Ltd 500 m

Figure 1: Map View of Research Area

Source: Google(2024)

3.4 Research Approach

The core of a research problem will guide the researcher as to what approach is the most appropriate in answering said research problem. (Creswell and Creswell, 2017). Research problems can have qualities that relate to qualitative or quantitative issues, or they can make use of both approaches which is what would be called a mixed methods approach (Creswell and Creswell, 2017). The research was mainly qualitative, but mixed methods is important to explain because some quantitative data was collected for the demographics in the study. In the case of the waste pickers and the homeowners in this study, the research problem is that the social and working relationship between the two parties has not yet been explored, and the aim of the research is to do so. In exploring this relationship, an interview with both quantitative

and qualitative questions was used, as well as observational notes to measure perceptions and expectations held by the participants (Creswell and Creswell, 2017). The quantitative data in this project is used to augment the research, but the qualitative data is the main component explored in the project as it is the most insightful for exploring perceptions and expectations of individuals in the study.

For exploratory research, qualitative research can be useful because we want to move from a stance of not knowing what is important about the problem, to then understand what factors of the problem are most relevant to people (Creswell and Creswell, 2017). This is particularly important given the complexity of the relations between the two very different social groups participating in the study. Using qualitative and quantitative data allows the researcher to gain a holistic view of the case they are researching (Doyle et al., 2019). In order to thoroughly explore participants' individual perceptions, it must be considered that the groups have very different social and economic backgrounds. This means a qualitative approach is appropriate for grappling with the vastly different perspectives given the context of the waste pickers and the residents (Braun and Clarke, 2013). Qualitative research allows the researcher to make an analysis using an inductive approach, thus honouring the unique experiences of individuals in the study (Creswell and Creswell, 2017). In honouring unique experiences, it is important for the researcher to use qualitative techniques in an appropriate manner depending on the context they are working in (Braun and Clarke, 2013). For this research, it meant that it was important to ensure that different approaches in interviewing individuals was taken into account, given that the waste picker participants in the research came from vulnerable communities, and differed from the homeowner participants in the study who came from upper-middle-class communities.

The validity of qualitative research as a research method has been questioned in the past, but it is now understood as a valid way to grapple with complexities and conflicting information that are not always possible to quantify in quantitative research (Creswell and Creswell, 2017). Following Creswell and Creswell's (2017) criteria for using qualitative research, it was clear that the study could be carried out in a qualitative manner. Some of the most important elements of qualitative research are: "natural setting", "researcher as key instrument", "multiple sources of data", "inductive and deductive analysis", "participants' meanings", "emergent design", "reflexivity" and "holistic account" (Creswell and Creswell, 2017:181–182). These elements are important to consider and will be explained in the relevant data collection and analysis

sections.

3.5 Perceptions

Perceptions are an effective pathway to identify reasons for social action or social inaction. Perception can provide insight into the meaning of what is being researched for the specific group or individual (Given, 2008). Studying perceptions of individuals in one-on-one settings will provide insight into subjective truths for these individuals (Given, 2008). These can then be compared within the group of waste pickers and within the group of residents, providing how much intersubjective perceptions both groups have towards the other group. It is important to understand not only the perceptions of the individuals, but also how similar or different the perceptions that are recorded within and between groups are (Given, 2008).

3.6 Participatory Methods

Participatory methods are used in the research to ensure that the outcome of the study can aim to assist the participants involved (Schubotz, 2020). The participatory process of this research included pre-interviews to the main interviews with the homeowners and waste pickers, ensuring their input was included in the questionnaire. This decision to include participants' input in the study follows the idea that research should not only aim to uncover better understanding of a subject area, but also try to improve the lives of the participants in some way (Schubotz, 2020). Since this is a very small study, and the capacity to make great changes is limited, the research does not follow participatory research in terms of action research, as set out by Kurt Lewin (Schubotz, 2020). With limited resources, a semi-structured survey was carried out with the participants before interviewing other groups. One might argue that including the subjective views of the participants in the research will bring too much bias into the study (Braun and Clarke, 2022). However, contrary to more traditional views that research should remain as impartial as possible, bias is an important part of qualitative research (Braun and Clarke, 2022). The subjectivity of the participants allows for the research to follow a bottom-up approach and to grapple with the issues that are faced by the participants in the research. A participatory method adheres to Creswell and Creswell's (2017) characteristics of qualitative research, in particular "participant meaning".

3.7 Scoping Visit

A scoping visit is a way in which to get perspective on the physical location of the study area as well as to estimate what kind of limitations there are in the location of the study area for

carrying out the research (Newsome, 2016). In February 2022 a scoping visit was made to the Bergvliet suburb as well as to the buy-back centres in Retreat. During this visit, it was attempted to make some connections with the waste pickers and the residents of the area and to understand how willing they were to participate in the study. A fellow fieldworker assisted in the research and assisted for interviews with the waste pickers. It was clear that the waste pickers were eager to speak with the fieldwork team, when they discovered that the conversations were focused on waste picker integration. It was found during this visit and the pilot visit that speaking to people while they are at the buy-back centre is quite difficult as they are usually in a hurry at the end of their working day. During the first scoping visit during a conversation with a waste picker, it was unexpected that the participant broke down in tears when we asked about their work and the struggles they face. In reflecting on the interaction with the waste picker, who described how he was not able to find adequate housing for his family, it was clear that he felt overwhelmed by a stranger taking interest in his circumstances. Upon later visits to the buy-back centre, the same man greeted the team with great enthusiasm, and announced that he had found work to provide him with an income. The relationships built with participants have a significant meaning for different participants in the study, giving insight into their experience with outsider figures (Lock and Strong, 2010).

3.8 Pilot Studies

The questionnaires formulated for the respective groups were piloted before starting interviews. Myself and another fieldworker, who is experienced in interviewing waste pickers, completed these pilot studies. The researcher is much more of an outsider researcher given the socio-economic position as a white, female, cisgender, English-speaking, tertiary-educated individual. It is important to note the position as an outsider researcher in that the waste pickers are likely to feel they are in an inferior position of power to the researcher. The pickers mostly identify as coloured, or Khoi or San, and spoke Afrikaans as a first language. The pickers were generally very impoverished, and, in terms of education, many did not complete a high-school education.

Noting your position as a researcher is important for qualitative research as it forms part of the interview process and can affect the data that you collect as a researcher (Braun and Clarke, 2022). There is a great socio-economic gap between the researcher and the waste pickers, and it was important to be conscious of the discomfort that pickers may feel in answering questions about their work to someone perceived as an outsider or even as a potential threat to their work,

if the aims of the research are not explained correctly. The pilot for the waste pickers was done with two waste pickers near the buy-back centres in Retreat. Pickers were approached and asked a few questions when waiting in the queue to drop off their day's work and they were asked if they would speak further once they had weighed and dropped off the material. When piloting the questionnaire for the pickers, it was found that many waste pickers would become reluctant to wait longer than fifteen minutes to answer questions by the buy-back centres. There were also many people, trucks, and cars near the buy-back centres, making it a difficult location to record the interviews. Many people passing by would also ask questions while the interviews would take place, and they would be assured that waste picking work is being protected in this research. It was a good way to gain a rapport with participants, but it would delay the interviews and one of the fieldworkers would be taken away from the interview process. It was then decided that it would be better to meet with the waste pickers in their working areas, when they are on their way to the buy-back centres. In this way they could rest on the pavement and have more space and time to answer questions.

The pilot questionnaire for homeowners was completed in-person to gain quick feedback on how the pilot participant understood the questions. This was done by asking a homeowner who was also living in an upper-middle-class suburb of Cape Town. The questionnaire was run through to mainly gauge how effectively the questions came across to the participant. All questions were clear, and the participant gave feedback saying that the number scaling system was effective to prioritise their answers. The positive feedback was taken into consideration when asking participants in the study the same questions.

3.9 Sampling: Waste Pickers

The research results included interviews with 15 waste pickers who work in Bergvliet. The criteria for being interviewed was if the individual was 18 years or older from observation, if they were collecting recyclables, usually in some kind of trolley, and if they confirmed that they collect waste in Bergvliet. During the proposal phase of the research, it was recommended to aim to interview only five pickers, as it was thought to be more feasible. During fieldwork and conducting interviews, the opposite was found, as many pickers were found to work in the area, and many were interested in sharing their thoughts and contributing to the study. Eighteen waste pickers were interviewed, but only 15 were included as appropriate contributions for the end results of the study. Data saturation was found after four days of interviewing the waste pickers in the area. While conducting the interviews, one participant became agitated and

indicated needing to go home, and was thus not able to answer the full scope of questions. Another participant seemed to communicate well at the beginning of the interview but later became much less lucid and may have been mentally unstable. A third participant interviewed had a trolley but was in fact not collecting waste, but had relationships with homeowners and indicating collecting a large amount of their nearly expired food and items to take back to the community. These individuals could therefore not be included in the study as they did not meet the requirements of the research.

These interviews and conversations were led by the co-fieldworker, who is an insider researcher. This fieldworker, Mr T, is a coloured man, and is older and respected for his age in coloured communities. Mr T was addressed as “Oom” by many of the participants, which is a term of respect for older men in the community, and means “Uncle” in Afrikaans. The researcher would try to position themselves as a bystander in these conversations, not using their position as a more powerful individual to intimidate the participants. This approach follows Creswell and Creswell (2017) in ensuring that the research has “reflexivity” in how the researcher and the fieldworkers are positioned in the research. It was explained in introductions that the research is being conducted with the University of Cape Town and that the interviews were trying to help their working life and not take it away.

3.10 Sampling: Residents

Requirements for the homeowners to take part in the study is that they had to be living or had previously lived in Bergvliet and be 18 years or older. This changed slightly after a community group was contacted to make initial contact with the residents of the area. This was done in the pre-interviews. Many people who took part in this stage of the study also lived in Meadowridge and Kreupelbosch and asked if they could still be eligible to take part. This seemed acceptable as the areas are directly next to each other and the waste pickers are likely to work in all these areas. This expanded my geographical requirements for the second stage of the study.

The same group of people were contacted for the second round of interviews and were asked to pass the research invitation on to others in the community, also known as the snowball method. Snowball sampling is effective in this case because it is likely that there are other individuals who are more difficult to contact that would be interested in taking part in the study (Morgan, 2008). The issue with snowball sampling is often that bias may occur in that only those connected to the network will be contacted (Morgan, 2008). This is less of an issue in a

case study, because the research needs to be focused in only one suburb. There may be bias within the people who are active in the community group, but snowballing may help to move beyond these initial connections. Homeowners were found one by one through snowball sampling. Data saturation was found when reaching 15 homeowners as, even though opinions varied, the same opinions were found between certain homeowners. These results were included in the final analysis.

3.11 Data Collection

The general interview was used to gather data in the research process. Interviews are the most commonly and universally understood method for data collection in social science research (Braun and Clarke, 2013). General interviewing is appropriate for this research because it allows for the participants to give their perspective on a topic that has been formulated by the researcher (Braun and Clarke, 2013). Interviews in mixed methods studies usually integrate the structured interview approach of quantitative data collection with the unstructured interview approach of qualitative data collection (Morse, 2012). This often results in a semi-structured interview approach, which was also used in the data collection process in this study. Integrating these two approaches was appropriate for the study in order to gain more insight into the background of the research participants. In order to provide context to the perceptions and expectations that participants held, it can supplement the research to include quantitative biographical data of the participants in the study. The languages used to collect data was predominantly in English. There was some Afrikaans spoken by the fieldworker and waste picker participants which the researcher was able to understand in their transcribing process.

3.12 Qualitative and Quantitative Interview Questions

In mixed methods research, both quantitative and qualitative data is used to investigate the objectives of a core research problem (Morse, 2010). This is similar to the research approach taken in this study. The data is often supplemental to each other and can be integrated in the research in a manner that is appropriate to answer the research question (Morse, 2010). In this study, the qualitative component provided the main data to answer the research question regarding expectations and perceptions, and the quantitative data supplements the context of the participants' experiences. With this in mind, the interviewing process for qualitative research is much more contextual and depends on the circumstances on the day of the interview. These kinds of interviews are understood in research as "purposeful conversations" (Billups, 2021:36), where both the researcher and the participant are enabled as drivers of the

conversation. The value that this tool can provide to research is that it can allow the researcher to gain access to information that is usually not easily accessible (Rubin and Rubin, 2013, cited in Billups, 2021:36). This is especially true for topics that may be considered taboo or controversial or which are not usually afforded much value. This is important to consider as the qualitative component of the research is core to the research problem.

3.13 Unstructured Pre-interviews with Homeowners

The research started with conversations with homeowners in the Bergvliet area. Contact with the residents was made through a community group in the area. An email invitation was sent out with a Google Form asking residents to participate. Twelve residents participated in this process. The interview started with an introduction to the research and was very informal and unstructured. Conversations were carried out with the residents over online platforms such as Zoom, Google Meet or Microsoft Teams. They were informed that this was not the official data collection phase of the research, and that the data from these conversations was just to inform the main interview questions. These conversations covered what residents were concerned about in terms of formal and informal waste management in their areas as well as what they would like to ask the waste pickers in the interviews with them. These interviews were transcribed and used to construct the questionnaire for the waste pickers working in the area. The virtual interviews presented technical difficulties in some instances, and a WhatsApp call approach was suggested by participants for the second interview phase. This phase of the research was to ensure a participatory approach to the research was carried out in ensuring that participants could contribute to the aims of the research (Schubotz, 2020).

3.14 Unstructured Pre-interviews with Waste Pickers

During the scoping visit, the research team had many in-person conversations with waste pickers around the suburbs as well as close to the buy-back-centres, where waste pickers end their day's work. The conversations with people working in these positions was hugely informative as to what would be important to include in the interviews with waste pickers and homeowners. Waste pickers often want to speak about the buy-back centres and about the values they are offered for different waste materials. It was interesting to hear that they did not have much to say about the homeowners in the areas they worked in. Initially, this was discouraging for the research that there was not much communication between the groups, but hearing the varied opinions and questions from homeowners on the subject provided sufficient motivation to keep exploring participants' perceptions and how they may influence the

dynamics in waste collection. These interviews gave useful insight into what the waste pickers' working lives were like and into what the best approach for the final interviews of the study would be, as guided by the approach of participatory methods (Schubotz, 2020).

3.15 Semi-structured Interviews with Waste Pickers

The homeowners' pre-interviews were very insightful and provided the research with a strong bottom-up approach in tackling the issues and concerns of the study area. Their concerns and questions were then included in the semi-structured interviews with the waste pickers in the area. The questions were also informed by the Waste Picker Integration guidelines in what are the current issues faced across South Africa for waste pickers and within the overall sector (DEFF and DSI, 2020). It was decided by the fieldwork team that meeting the waste pickers in the morning on their way back to the buy-back centres was the best approach for having conversations with them.

These interviews took place in Bergvliet, Meadowridge and Heathfield. The interviews took place over four days, and generally lasted from 8:30 a.m. until 1:00 p.m in April 2022. The interviews aimed to meet the first research objective, by determining the waste pickers' role in the recycling economy in Cape Town, and the fourth research objective, by determining their perceptions and expectations of homeowners. The interviews included the unstructured interviews with pickers, as was done with the homeowners. This was done at the end of the formal data collection interviews. It was felt that the pickers were much more comfortable and familiar with the fieldworking team by the end of the interviews and would openly share their views on what should be asked to the homeowners as the interviews progressed. This information was used when structuring the final interview questions that would be presented to the homeowners.

3.16 Semi-structured Interviews with Homeowners

Phone interviews were found to be the most effective for these interviews. This was a safe Covid-19-related measure to have in place and was possible given the access to communication that the homeowner participants in the study have. The interviews lasted between 11 and 45 minutes. These were arranged on a booking application system called Koalender that allows individuals to book times on your Google calendar without seeing other participants' booking times. As already noted, the interview questions were based on interviews done with waste pickers, as well as the issues faced in the sector as sourced from the Waste Picker Integration

Guidelines (DEFF and DSI, 2020). This was effective in ensuring anonymity amongst the participants. These interviews took place during the months of May and June 2022, and participants were interviewed and scheduled as the snowballing method introduced new participants to the study.

3.17 In-person vs Online/Phone Call Interviews

The interview processes for the different participants was done in terms of taking the most precaution for covid-19 where possible. This was possible in terms of contacting community groups in the residential area, but not as easy to contact the waste pickers. There was great value in doing in-person interviews with waste pickers that was not possible with the online and phone call interviews that took place with homeowners. Field observations of body language, facial expressions, interactions with other people in the community and being able to see the emotional responses gave a deeper understanding to the answers that were given by waste pickers. This may have been lost in the interviews with homeowners, but the advantage with the online and call interviews was that participants were not rushed to give answers and felt comfortable to think and take their time without worrying potential covid risks.

3.18 Transcribing Interviews

The interviews were transcribed verbatim using Otranscribe. This software gives one the ability to change the speed of the speaking as well as to pause the recordings while on the same document as typing. Once the interview transcriptions were complete, these were copied and pasted into a Microsoft Word document.

3.19 Data Analysis

Thematic analysis was the chosen data analysis method for the research. This was done using Braun and Clarke's 2021 guide on thematic analysis. The data analysis phase is an opportunity for the researcher to combine and analyse their fieldnotes and transcribed data in order to align it to theoretical concepts and research (Given, 2008).

3.20 Coding

There was great familiarity with the data by the time it came to coding, as it had already been manually transcribed the data using Otranscribe. The coding process was started by using a pencil on printed transcripts. Going into this process, it was found that there was enough

familiarity with the data in order to move to coding on the computer. Using suggestions from Braun and Clarke's *Thematic Analysis: A Practical Guide* (2021), the coding was completed by writing comments in Microsoft Word. The coding process allowed for emergent codes to come from the data set, and to organise and simplify the codes into themes from here. This allows for exploration in the meaning of the data and ensures that the outcomes of the research are not pre-determined (Carpenter, 2018).

There was a large set of data, with 156 pages of transcribed interviews from the waste pickers and 134 pages of transcribed interviews from the homeowners. The work was completed effectively while also ensuring that attention to the research question was top of mind when coding the data. Once the coding was complete, in order to narrow down the varied codes, macros in Microsoft Word were used to transfer the comments to a separate document. Once this was done, the codes were copied and pasted into a Microsoft Excel document where they could be organised further. From here, in a parallel column in the Excel document, the codes were arranged into sub-themes. From the sub-themes, a pivot table was used in Microsoft Excel to subtract the sub-themes, which were organised into main themes. This was repeated for the separate homeowner and waste picker datasets.

3.21 Ethical Considerations

Ethics in research involves understanding the responsibility the researcher has to be socially ethical throughout the research process (Edwards and Mauthner, 2012). It is important to understand ethics as not just the way in which the researcher conducts themselves in the method or in the field, but as a frame of mind that considers ethical dilemmas throughout the research process (Edwards and Mauthner, 2012). This meant ensuring that research participants were not only included in the participation of the study but were treated with dignity and their data recorded accurately and kept anonymous. Ethics clearance was received from the University of Cape Town before reaching out to potential research participants.

The first step in the process was ensuring that all participants received informed consent, as well as a way to contact the researcher if they wished to withdraw from the research or had further questions for the researcher (Edwards and Mauthner, 2012). The participants were given the opportunity to understand how the interview data would be used in the research, what the aim of the research is and that their privacy would be upheld throughout the research by removing any identifiers to individuals during data analysis (Edwards and Mauthner, 2012).

For the homeowners, it was possible to send through a detailed consent form which they signed and sent back to in order to allow their data to be used. For interviews with the waste pickers, it was not certain whether some individuals were literate, as it is commonly known that many were not able to receive an education. The decision was made to ensure that waste pickers received an explanation of the study beforehand and that they would give oral consent to participate in the research. This decision was made to ensure that unequal power dynamics between the research team and the waste pickers were not deepened by making waste pickers feel inadequate in the research process. Participants were given contact details of the researcher in order to ensure that they had the option to be removed from the study. Before using recording devices in the interview, consent was given by all participants that the interviews could be recorded for anonymous transcription.

As mentioned previously, it was very important to prioritise being conscious of the researchers position as both an outsider and insider researcher in the study. Because waste pickers spent time speaking to the fieldwork team during their working hours, the waste pickers were compensated for their time. It was made sure to give them monetary compensation for their time as well as something to drink, such as a juice, during the interview.

3.22 Covid-19 Protocols

The in-person fieldwork was carried out with disposable masks, and hand sanitiser was used throughout the day. The temperatures of the fieldworkers were taken at the beginning of the day to ensure that they did not exceed normal levels. Masks were safely disposed of at the end of the day. The fieldworkers carried extra masks with them in case waste pickers requested to wear them during interviews. A safe distance of at least two metres between participants and fieldworkers was maintained during interviews.

3.23 Reflexivity

Reflecting on your position as a researcher means acknowledging the influence that you have on the path your research takes and on the overall results of the research (Braun and Clarke, 2021). This means there is an opportunity to be seen, rather than to fear that the research will be “wrong” or unsound (Braun and Clarke 2021). The difficulty in reflexivity is the tendency to want to find certainty, but it is important for the researcher to fight this urge in order to continually question their own reasoning for the choices made in research (May and Perry,

2017).

This task was made significantly easier through getting feedback from participants before conducting the study. In entering the study, it was important to maintain a frame of mind of being an outsider researcher when considering the waste pickers, and an insider researcher when considering the homeowners. Mr T would lead the interviews with the waste pickers, and It felt it was important for the main researcher to take a step back during the interviews, and to try to not appear as if having a position of authority.

In the interviews, it was interesting was that waste pickers were much more interested in taking part in the study than it was previously anticipated. They would become invested in the interview process and evidently felt excited to give their opinion, often saying that no one had asked them questions like that before. The interviews with the homeowners had a similar sense of individuals feeling motivated to have their opinions voiced and to explain their thinking on certain questions. The levels of positive and negative feelings towards the work of the waste pickers would vary, but having an opportunity to explain their opinions was something that came across as a positive aspect in the study for most participants.

3.24 Limitations

3.24.1 *The Types of Homeowners*

The homeowners who agreed to take part in the study were all consistent recyclers. As Strydom and Godfrey (2016) found in their study, there is a very small percentage of South Africans who report being regular recyclers. This means that the perspectives of the participants in the study may be skewed towards a group that are already concerned about proper waste management. The study may be lacking the opinion of those who do not recycle at all, and what their perception of formal and informal waste management might mean for these sectors.

3.24.2 *Outsider Researcher Status*

As previously discussed, the researcher is identified as an outsider researcher in this study with regards to researching the waste pickers' perceptions. It was still important to include the perceptions of the pickers in the study in order to compare their experience with that of the homeowners. There is a limitation in the fact that the pickers might associate a white English-speaking person as an authoritative figure in the South African context, and may have felt inclined to answer in a certain way when towards the outside researcher in the study. The

researcher tried to remain a listener, their fellow fieldworker, who was more of an insider researcher, would usually lead the conversations, yet it remains possible that the presence of an outside researcher could have resulted in a filtering of some of the answers that waste pickers gave.

3.24.2 *Snowballing Method*

It must be considered that through using this method to find participants, the data can be affected in that individuals who are in close contact with one another in the community are being included in the study. This means that the data from the interviews could have similar perspectives from participants who are in more frequent contact with one another.

3.25 Summary

This section introduced the methods used to answer to research question. It showed how using a case study design with primarily a qualitative approach was appropriate to explore the perceptions and expectations of individuals in the study. The qualitative methodology included scoping visits, sampling methods, the data collection methods, and the data analysis methods, which also includes ethical considerations and limitations in the study.

Chapter 4: Findings

4.1 Introduction

The findings first present the supplementing quantitative section, which consists of the socio-demographic profiles of the participants in the study. This section includes gender, level of education, length of time living in the area for homeowners and length of time picking for the waste pickers. The qualitative data findings and analysis, which form the core data of the research, are then presented. The themes that were generated from the thematic analysis are investigated with guidance from the social constructionism framework and then compared with relevant literature. This section analyses the individual experiences of waste pickers and homeowners in a way that offers insight into how their interactions with one another shape their perceptions. The findings show that perceptions from the waste pickers of homeowners is that many homeowners have very varied perceptions of how waste pickers should play their role in the waste management system, ranging from very negative, indifferent to very positive perceptions. The homeowners' perception of informal waste collection was found to have the same variance. Although homeowners in the study often felt sympathetic towards waste pickers and honoured their efforts to earn an income in a legal manner, there was no clear indication that homeowners believed waste pickers to be truly adding value to recycling systems. There is also contrasting motivations for recycling activities between the two groups, as homeowners mainly recycle to reduce environmental impact, whereas waste pickers primarily recycle for economic gain.

4.2 Biographical Data

As part of the final interview stage, 30 participants were included in the participation group. These participants were comprised of 15 waste pickers working in the area and 15 homeowners living in the area. The study has chosen to separate the socio-demographic indicators of the groups, as their contributions to the study hold very different meanings. As the waste pickers were interviewed on the go during their working hours, it was found that there were more often more male waste pickers in the later hours of the mornings, which is around 8:00 a.m. to 10:00 a.m.

Taking into consideration the gender of the participants is important for gaining context into their individual lived experiences. The way that people are perceived by others will in turn shape their perception of themselves and of others (Burr, 2003). Gender is a factor that affects

every human's life, as there are many conscious and unconscious expectations that people have of one another along with the appearance of their gender.

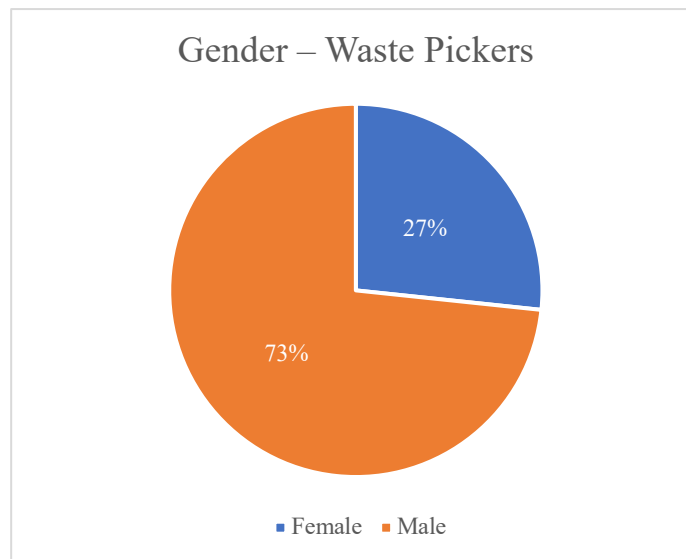


Figure 2: Gender of Waste Pickers in the Study

Source: Own data

Figure 2 and Figure 3 depict the gender of the participants in the study. In interviews with the waste pickers, around 30% of the participants were women. It is difficult to say whether this was coincidental or whether there are overall many more men than women working as street waste pickers in the area. This is in line with other South African studies, like those of Schenck and Blaauw (2011) in Pretoria, where 97% of participants were male, and the nationwide study by Viljoen et al. (2018), where 91.3% of participants were male. It might be possible that the time the interviews were conducted was too late for many of the women waste pickers who try to make it back to the buy-back centres as early as possible, as pickers in the study say that they try to get back early to avoid abuse from those who might take advantage of their vulnerability when working alone. Further research on the female street waste pickers in Cape Town could identify if there are in fact a large number of both male and female waste pickers or if this is a difficult space for women to work in.

During interviews, the women waste pickers shared their fears of being left on their own and shared experiences of being chased. In some cases, they were unable to describe fully some of the negative experiences that they have had to go through as waste pickers. Many also described the places they live, such as Lavender Hill, as dangerous and noted that it is a risk to

come and go as a woman working on your own. Taking this into consideration, if waste picker integration is further developed, it will be important to consider the different challenges faced by women waste pickers. Being able to walk in small groups is often essential for women waste pickers, but, with competitive routes, it can be difficult for them to stay together. Waste picker integration could consider how groups of pickers can be organised and coordinated together, supporting one another, and protecting women waste pickers.

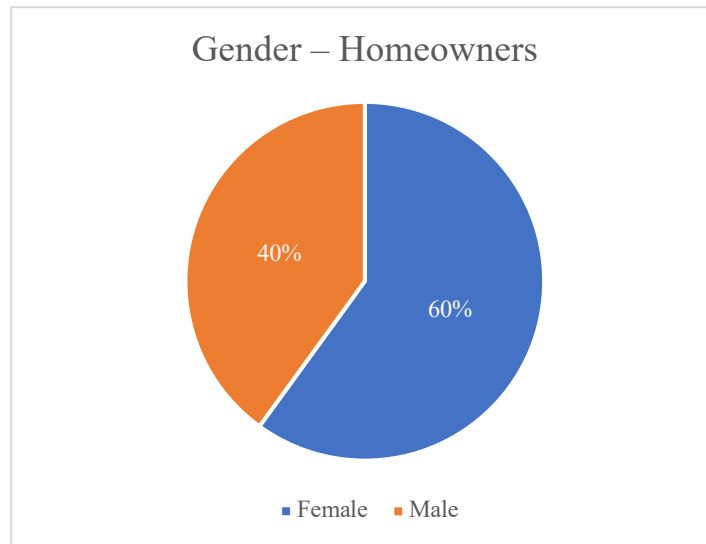


Figure 3: Gender of Homeowners in the Study

Source: Own data

The gender of the participants in the homeowner group was slightly more equally distributed, with 60% of participants being women and 40% being men. With only 15 participants in the study, this means that the duty of waste management in the home, as well as the interest from homeowners in the area on recycling, is fairly equal in terms of gender norms and expectations. This is likely to mean that the perceptions from the homeowners are much more varied, and give a good distribution of data across the given case area. Both male and female participants from the homeowners shared their concerns about crime, and it was not found that one gender felt more concerned or vulnerable about criminal activity than the other.

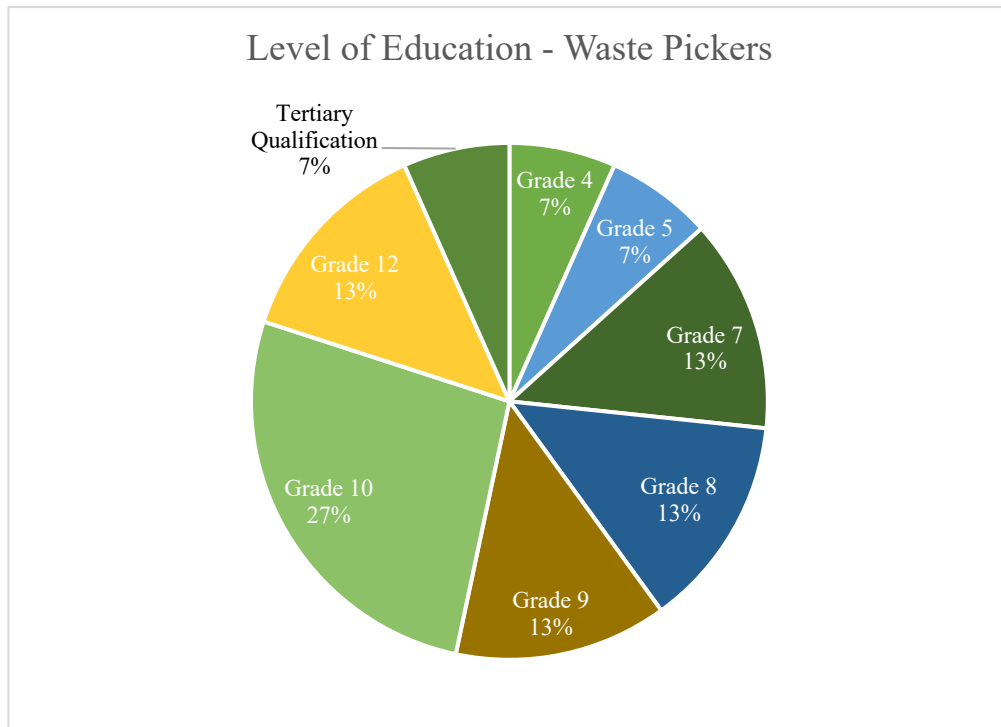


Figure 4: Level of Education - Waste Pickers

Source: Own data

Figure 4 depicts the level of education of the waste pickers. Of the participants, 20% reported having a matric (secondary school) or tertiary qualification. This is higher than other studies on street waste pickers; for example, in a study conducted in Pretoria, Schenck and Blaauw (2011) found that 1% of their participants had completed secondary school. The participants in this study spoke about their qualifications and their previous work experience, and expressed how they were unable to find any work at the moment and thus find themselves doing informal recycling. Other participants spoke of their frustrations in being unable to read properly, as they did not finish primary school, and the participants often move between waste picking and odd jobs for several years to decades.

The safety net that waste picking provides for individuals who have been unable to finish their schooling, as well as for individuals who struggle to find work in difficult economic times, plays a huge role in the lives of the people who do this work. Many waste pickers in the study described the value in their work to be the fact that it is better than committing crime. Informal recycling therefore provides a support system for unemployed people. Some waste pickers reported receiving government grants, while still having to do waste picking to provide enough for their families. Figure 4 indicates that 80% of the waste pickers in the study did not complete

high school. Another 40% of the sample did not complete Grade 9, limiting their chances further to receive technical training, which often requires a Grade 9 pass in South Africa. Public support of waste picker integration is a way in which local governments can support unemployment, with a system that is already in place. There is enough evidence in South African that people can become an informal recycler relatively easily and without any training. Enabling the process, and providing support in terms of coordination, by-laws, policies, equipment, or advocacy, could improve the income capacity of long-term and temporary waste pickers.

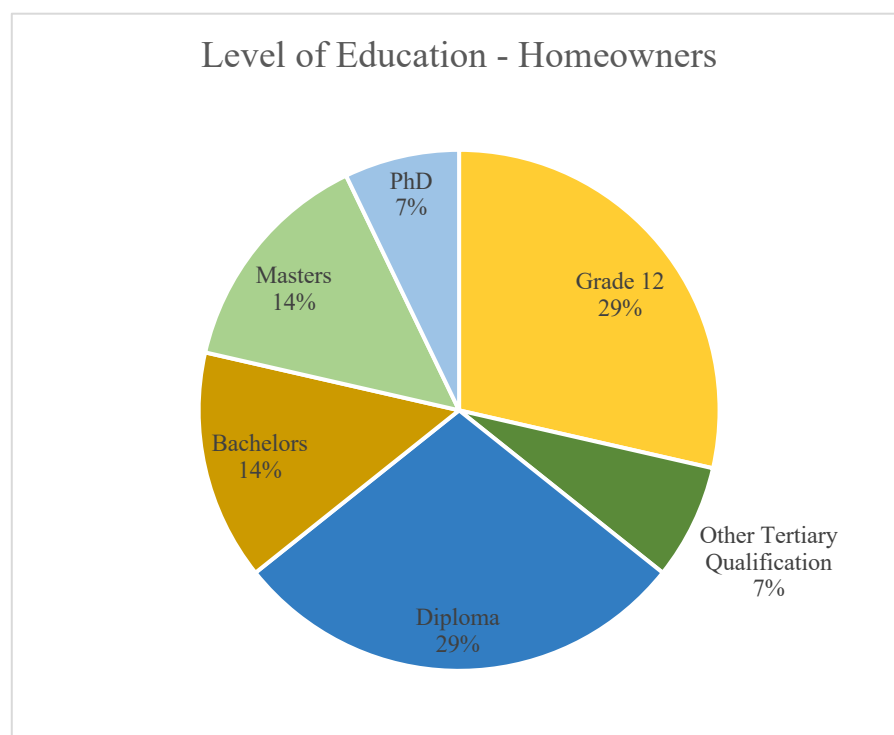


Figure 5: Level of Education - Homeowners

Source: Own data

Figure 5 describes the level of education that the homeowners reported themselves as having. It can be understood from Figure 5 that all of the homeowners completed high school and 71% of the homeowner participants had completed one or more tertiary qualifications. The stark contrast between the high education levels of the homeowners and the low education levels of the waste pickers is likely to mean that the groups have very different income levels and therefore very different personal concerns. South Africans at all income levels have deep fears of criminal violence, as this is an ongoing issue throughout the country. For homeowners fearing general criminal activity, waste pickers could provide community assistance in being

familiar with what happens on a daily basis and what could be considered a threat. In the study, there were also homeowners who felt that waste pickers created too much mess in the suburb, homeowners who sympathised with the waste pickers and homeowners who expressed both of these sentiments. This is in line with research by Pholoto (2018) conducted in Vaalpark, where some residents reported helping waste pickers by separating waste, and other residents who reported chasing waste pickers away from their bins.



Figure 6: Years Living in the Area - Homeowners

Source: Own data

Figure 6 depicts how long each participating homeowner had been living in the specified areas of the study. The figure shows that majority of the participants reported living in these suburbs for more than 10 years, as seen by 12 of the 15 participants. This indicates that people do not frequently move in and out of these areas, and are quite settled in their homes.

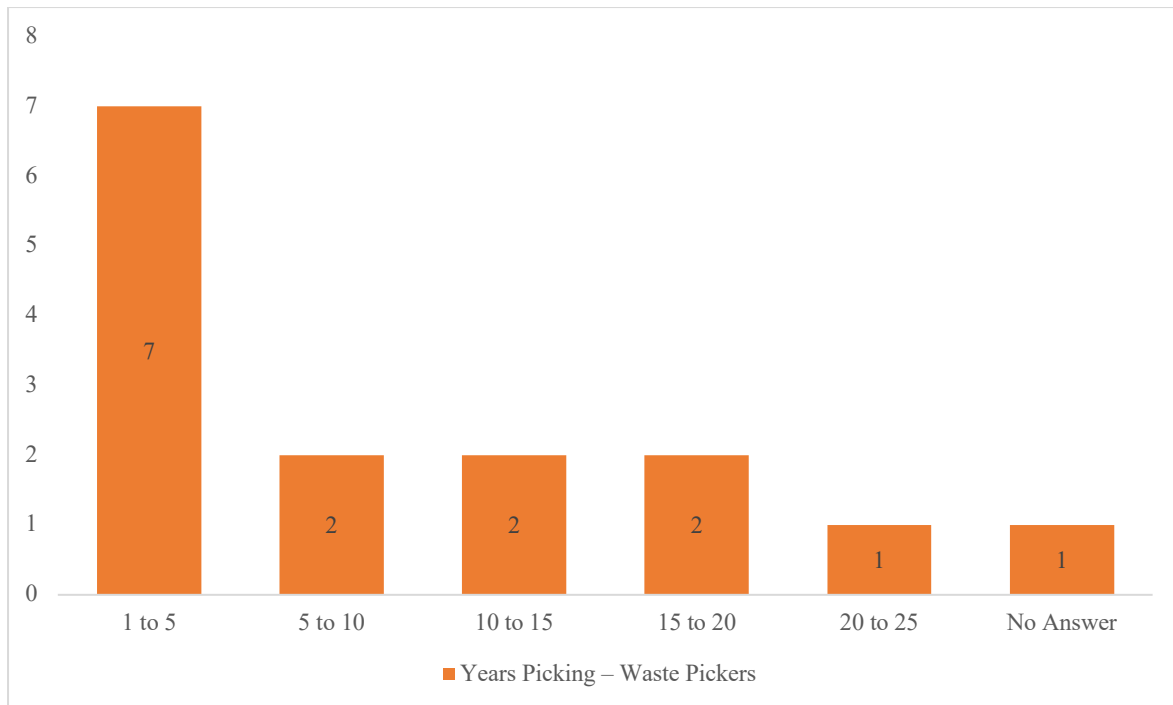


Figure 7: Years Picking - Waste Pickers

Source: Own data

Figure 7 shows the number of years that the waste pickers reported doing their work. The most frequently reported duration was five years or less. This corresponds to other research on waste pickers in South Africa, such as research conducted in Pretoria by Schenck and Blaauw (2011), who found that 90% of the waste pickers who were interviewed had entered waste picking in the five years before the interview. Similar numbers are seen in the research of Yu et al. (2020) conducted in Belville, where the waste pickers interviewed in the study had been in their roles for an average of 4.13 years. Waste picking seems to not be a long-term plan of income for most waste pickers in South Africa, yet it is able to offer support when those who prefer formal work are unable to find work. The transience of the waste pickers versus the relative permanence of the homeowners could be a contributing factor to the mistrust and unease between the two groups. It can be difficult to formulate long-term relationships when there are continuously different people working in these roles. Public coordination between informal services and residents could enhance the effectiveness of informal recycling initiatives by ensuring that a level of trust and cooperation takes place.

The aim of the study is to explore what expectations each group has of the roles and responsibilities of homeowners and waste pickers in waste picker integration. The biographical

data discussed provides additional insight into the qualitative section of the interviews with the participants. In the section below, the findings of the data analysis, guided by social constructionism, are presented. The themes were found to be relevant to both groups in the study, as the issues around informal waste management and relationship-building were applicable to both the homeowners and waste pickers. The following table displays a simple summary of the themes and sub-themes that emerged from the analysis of the data about each group’s perceptions. Each theme and sub-theme are discussed in more detail in the following sections.

Table 1: Themes and Sub-themes from Thematic Analysis

Themes	Sub-themes
1. Motivation for waste picking and recycling	
2. Experiences of vulnerability	2.1 Resilience in vulnerable experiences 2.3 Experiences of vulnerability in terms of societal value
3. Solutions	3.1 Cooperation 3.2 Communication 3.3 Knowledge and awareness
4. Appreciation	

Source: Own data

Each theme is discussed with relevant quotes from participants to support the explanation of the analysis. This is also supported with references to relevant literature.

4.3 Theme 1: Motivation for Waste Picking and Recycling

This section aims to address the second objective of the research which is “To determine the issued in collection and management of solid waste from municipal services in a given suburb”. Motivation is an important factor in the explanation for the actions taken by both homeowners and waste pickers. The motivation for waste pickers to do their work is a factor that waste

pickers perceive homeowners to not comprehend or to have pre-conceived assumptions about. This is seen in instances where homeowners may believe waste pickers to be doing waste picking to support their perceived drug addictions or using waste picking as a means to commit crime.

4.3.1 Homeowners' Motivations to Recycle

In terms of motivation as a theme for the homeowners, the research finds that they have certain motivations for why they recycle that are at odds with the reasons why waste pickers recycle. The homeowners mainly have an environmental motivation to manage waste consciously, which contrasts with the reasons why waste pickers recycle, which is usually for the economic benefit. This is in line with past research on waste pickers in South Africa (Langenhoven, and Dyssel, 2007; Schenck and Blaauw, 2012). In this study, all 15 homeowner participants practise recycling. Their reasons for recycling all indicated an ethical, moral, or environmental motivation to carry out this activity.

Homeowner C: “Because it’s the ethically right thing to do. We’ve got so much rubbish, so much packaging that we, it’s very expensive to take it all to landfill and a lot of it ends up in the rivers and oceans and so. Try and get it back to a source where it can be recycled.”

Homeowner J: “Um, because I have children who have, who are going to have children I assume and... since humans are the only species on the planet that do not, contribute to the environment, but only use the environment, gotta try and change that. Everyone else fits in, we don’t.”

Homeowner L: “So, for me like I’m horrified at the volume of plastic and packaging and... paper and just everything. So, like why I recycle is basically for the future of the planet. But I try... I’m also so aware that like, it’s all good and well to recycle, but you also have to try and reduce the amount that you are buying in plastic as well. So, I’ve been trying to buy vegetables that are, like a vegetable guy drops off, so they’re not packaged in plastic... which seems to be working quite nicely. Butt ya so it’s really like because of the future of the planet. Like and especially like having kids and just the ideas that these floating islands of plastic is just... ya terrifying. So ya.”

In the above answers, all three homeowners speak to reasons for recycling motivated by

protecting the environment and ensuring that there is limited solid waste pollution put into the environment. Homeowner C notes that the expenses to manage waste could be minimised through recycling, as well as that there is not enough land to use for the current landfill model that is carried out for most waste management systems in the world. Homeowner J and Homeowner L feel a generational responsibility towards their children and future generations to practise sustainable living. Homeowner L goes beyond a level of recycling and mentions that reducing the amount of packaging waste that leaves their home is more ideal than only practising recycling. The motivation to have good recycling practices in their homes is based on ethics, which could explain why many people have deep concerns for the way their waste is managed. Research on recycling practices in South Africa have been more focused on the reasons why people do not recycle (Strydom, 2018; Strydom and Godfrey, 2016).

Homeowner D: “Um, it’s been perfectly polite. In fact, last week somebody had a huge trolley full of stuff and he had seen that I had put my plastic recyclers on my front door because I was going to take it to the primary school and he implored me to please give it to him. Which I did and he said no he takes everything, but later during the day when I went patrolling, I saw him sitting in the neighbourhood sorting through these recyclables. Not just mine, but other people’s as well. I thought well I don’t really know what you do with the stuff. I mean I’m sure he takes what he can get money for to the recycling depot in Retreat, but what he doesn’t get money for, you know I don’t know what he does with it. You know I don’t know I could trust him, I actually prefer to take it to, to Bergvliet Primary School unless I could be one hundred percent sure that that guy takes it where it’s meant to go and where he gets money for it.”

Homeowner D’s answer demonstrates that they feel discomfort giving recyclables to waste pickers because they do not want the waste polluting the environment. Waste pickers are often not able to take all recyclables to buy-back centres. The homeowners do not address specific issues about municipal collection but understand that there is not a great capacity from the municipality to handle the amount of waste that is generated by the population.

4.3.2 Waste pickers’ Motivations to Recycle

This section addressed the first objective of the research which is “To explore the role of waste pickers in the recycling economy in Cape Town as perceived by the waste pickers”. The waste pickers’ primary motivation to recycle is to meet their basic needs. People unable to meet their basic needs and care for themselves and their dependents is a greater concern than occasional

littering that occurs from waste picking activities. It can be argued that the recycling activities carried out by waste pickers are likely to be having a positive effect on reducing pressure on landfills, even though there can be litter externalities caused by informal waste picking. This is an area that could be further researched to understand the value that waste pickers generate versus some of the negative externalities that may occur during the process. Waste pickers continue their work as their education levels and economic circumstances leave them with no other choice. Some waste pickers do speak of the environmental benefits they know their work can bring, but this is not the driver for them to perform their challenging roles on a daily basis.

Picker_M: “Um, jobs are scarce. I’ve got kids at home. I’ve got kids, twins, and a baby just now she’s now four, five years old.”

Picker O: “I lost my job.”

Picker D: “I’m starting because I haven’t got uh income to uh feed my children and to keep myself busy. Cos, I see it’s better to scratch in the bin, than hurt other people’s feelings. To steal from someone, to hurt his feelings, no. It’s better to scratch in the bin so you can get money cos there’s no work and it’s difficult for us.”

All of the pickers’ answers above point to economic needs that prompt waste picking. This is the common reason for waste picking in South Africa (Langenhoven and Dyssel, 2007; Yu et al., 2020). Picker M and Picker D are especially motivated to support children at home, which has been found to be true for waste pickers across the country (Schenck and Blaauw, 2011). Picker D also mentions that the work keeps him busy. This is an important factor to note in the research. Many of the pickers also expressed the enjoyment that the work brings them, meaning it is likely that they feel a sense a purpose in doing their work. Below, Picker L describes the positive aspects of their work compared to formal work. Research on waste pickers in South Africa has found that many waste pickers will choose this line of work in preference to a formal job (Yu et al., 2020). Picker L had previously worked in a formal job and indicated finding the ability to be more flexible a positive aspect of working as a waste picker.

Picker L: “Because I like people, I love people. Interacting with people, communicating. And you see different places and so. That is also something that I love about it. And being in nature, like so. Not stuck in a job and just sit one side. You understand what I’m saying? I just love it.

And you know what, not actually scratching the bin for me, for the one. I like the adrenaline of, just seeing what is coming when you get in the bin and something... you almost get like, maybe say item, something that will please the next person. Like for my children, I will get something. Then it will put a smile on their face. Something I can't buy for them that uses some cents. It's just... that is fine."

Picker L also finds that there is great value in being able to access goods that would otherwise be too expensive, or not accessible to them. The income gained for waste picking is likely to cover for food expenses and not much more. Being able to gain "things for free" is a huge value to someone that has very little opportunity to improve their lives with valuable material goods.

4.4 Theme 2: Experiences of Vulnerability

Vulnerability came through as an important theme for both the homeowners and the waste pickers. This addresses the fifth objective of the study "To determine perceptions of both groups in terms of opportunities and barriers for waste picker integration in residential areas". This section speaks to the general fear that South African people have of the crime that occurs, making people feel vulnerable on a daily basis, and some far worse than others.

For homeowners in this study, they are able to contribute to community watch programs and install home security systems. As seen in the biographical data, the majority of homeowners in this study have stayed in their homes for 20–40 years. This means that they are likely to be protective of their homes, as they are likely to be both financially and emotionally attached to these homes and to the suburb, they live in.

For waste pickers, vulnerability is experienced on many different levels, and there is little ability for waste pickers to add extra security measures to their lives with their small income. They live in areas where they are threatened by high levels of violence and crime, and face vulnerability when walking in and out of these areas. They are also sometimes robbed of their money or the collections that they have gathered during the day. Regardless of the challenges faced in their work, waste pickers display a resilience through their vulnerable positions. Integration is difficult and challenging in this sense, because waste pickers have inconsistency in their working days, as well as vulnerable working lives if they are associated with the criminals that steal from them, and from homeowners.

4.4.1 Vulnerability Experienced by Waste Pickers

A common theme in the interviews of the waste pickers was the vulnerability they felt in terms of the challenges they face in their work. They expect homeowners to empathise with their position in society, thereby allowing the waste pickers to continue their work. In contrast, there are the fears and concerns of homeowners around waste pickers carrying out their work in close proximity to their homes. The study has discussed these two themes in parallel because the vulnerability that waste pickers feel and the fears and concerns that homeowners have about protecting their property, are echoed in similar issues seen on a larger scale in South African society at large.

Many of the waste pickers live in areas that have high rates of gangsterism and violent crime. The pickers face crime every day and speak of the risks they take when leaving their homes to do their work.

Picker H: “Then you can see the difference and he is like, cos a lot of houses, they will see something standing there in the corner. They will walk here every week, and then just out of the blue, he will be disappeared. What are you doing on other people’s? Cos a lot of people knows, like Lavender Hill, it’s messed up. So that, some people will beware it, just now to get into the violence, cos I know there they also wanna rob the people on that side. Cos I’m taking chances to leave five o’clock in the morning.”

Picker H’s response speaks to the difficulties in being associated with criminal activity as a waste picker. Their response notes that there are people who carry out crimes in the areas where the waste pickers are collecting their recyclables, but that this kind of activity is also all too familiar to them in the areas that they live (Langenhoven and Dyssel, 2007). The issues of crime and inequality run throughout South Africa, and the pickers are forced to live with the pressures that come with this every day. This is noted in Picker H’s response, who notes that leaving early in the morning to carry out their work puts their own safety at risk.

The homeowners fear that waste pickers give criminals an easier opportunity to carry out their crimes, pretending to be waste pickers and then committing crimes in the areas where waste pickers work. In asking the homeowners what they could rank as their biggest concern in terms of the waste pickers’ work, “criminal activity following waste pickers” was ranked as the number-one concern for 7 out of 15 homeowners, and therefore the highest concern overall.

Fieldworker: “Um and are there things that, and if there are could you describe them, things that you appreciate about informal waste pickers in the area?”

Homeowner F: “I don’t think it’s a great idea to encourage them because other people to use them as a cover to suss out the area or to be in the area. To see things that would help them in terms of crime-related opportunities.”

In the interviews, there were questions asked about waste pickers and ideas of criminality attached to their work. In the above answer, Homeowner E was responding to a question around the value that waste pickers are able to bring to society. The homeowner’s answer describes that they feel the waste pickers’ work does not have enough value to be encouraged, or that the negative side effects of informal waste picking outweigh the positive value the work may bring in a socio-economic or environmental sense. Their answer alludes to their perception that waste pickers are not the people carrying out crimes, but that they are used as a means to gain access to neighbourhoods that are likely patrolled by security. Community security watches have enforced informal curfews for waste pickers, as a compromise to allow them to work but to ensure that the opportunity for crime is limited by others taking advantage of waste pickers. Waste pickers conduct work on the streets – public areas that everyone has access to. Concepts of who has the right to access waste and to work in certain areas links to the research of Samson (2015) on power struggles over commodity frontiers. The right for individuals to be present in public areas becomes up for debate when it starts to be questioned where a person can walk, or what work they are allowed to do.

Picker I: “People are cruel. Especially me being a female, skarelling on my own, you see. They like to stalk and, and prey on your vulnerability. They will look, they will stand by a bin, and they will look busy. They looking at you but, you wouldn’t even know that they timing you and like ya. Some just rob you, but some want to take advantage like, like I one time came running down this main road to the security guys. Yoh, ran on the white line. Yoh, that was a very bad experience.”

Picker I, a female waste picker, speaks about the difficulties faced in their work. Most waste pickers reported that working on their own is more effective for income and flexibility. However, there are downsides to this, as Picker I describes. Many waste pickers in the study

spoke of being exposed to an environment with high levels of crime and gangsterism, which affects their ability to do their work effectively, as well as infringing on their personal safety. Waste pickers and homeowners both have feelings of fear about the possibility of crime potentially bringing harm into their lives. Given the under-resourced position that waste pickers live in, they are much more vulnerable and exposed to the negative effects of crime on a much more regular basis than homeowners. This is in line with research on waste pickers' vulnerabilities across the globe. Female waste pickers have been reported to be vulnerable to threats and attacks of gender-based violence elsewhere in the world as well (Ogando et al., 2017). Criminal threats have been reported by both men and women in this study, as seen below.

Picker A: "Because now when you come, like me I'm doing my recycling to survive. Now I meet these okes, they part of a gang or something, 'Look here don't you have a R5,' I tell them 'I don't have to give you.' Now my R30 or my R40 which I earn for the day must go, because now they all attack me and they rob my money. So what can I do, because there's no protection over us. There's no people where I can run to, you know. And then say 'Okay, this happened.' I need to fight that on my own. Even if I go to the cops, they tell me 'Go to the Doctor. The doctor must make a case.' So sometimes you feel disappointed, and you just give up on everything. For you it feels like life is hopeless at the end of the day. But for me, I just do this to survive on a daily basis..."

Picker A here indicates the same vulnerability they feel in their work, and the physical abuses they face if they do not comply with the criminals they encounter. Waste pickers earn below the average of elementary occupational workers (Yu et al., 2020), and cannot afford to lose their daily income. Waste pickers facing crime in their work is in line with research by Langenhoven and Dyssel (2007), who found that waste pickers in Mitchell's Plain, Cape Town, are frequently robbed of their earnings or valuable materials. Buy-back centres have tried to provide assistance by placing security guards at the entrances (Langenhoven and Dyssel, 2007). The same assistance was witnessed in the field observations in Retreat, where security guards at the gates of buy-back centres control the queues of waste pickers, as well as not allowing anyone inside who is not dropping off waste, including the research team of this project. Providing assistance to waste pickers in terms of protection is possibly linked to the complexity of the definition of waste; waste is seen as a by-product, and there is likely to be those who believe that there is not a need to provide protection to people working in the waste sector.

For example, according to Picker J: “They take my, yoh... many times you see and then they rob me. Yoh, ya my bru, it’s not lekker, man. It’s not lekker, man. What can I do? I can do nothing. I can’t go to the police, cos the police say, ‘That is rubbish. What must we do about rubbish?’.”

Picker J describes this complication in their work, wherein waste has no value attached to it depending on the context of the situation. The waste pickers’ livelihoods therefore change in value depending on the context of the situation, complicating this area even further. Waste is viewed as valuable when there are other stakeholders wanting access to the waste, as seen in Samson’s (2015) research, wherein there was an attempt to block waste pickers from a landfill in Soweto when the state recognised the capital potential in waste. Yet waste loses its value when people’s safety and survival are questioned, and no one wants to take responsibility for the waste pickers’ safety. The complication in defining what waste is and how it should be defined is in line with research by Ernstson et al. (2021), where informal collection becomes marginalised when separation-at-source programmes have the ability to be profitable.

4.4.2 Vulnerability Experienced by Homeowners

The homeowners’ fears and concerns around waste pickers are varied. This section focuses more particularly on the criminal factor, as it is the highest concern amongst the homeowners.

Homeowner B: “And on the crime issue, I’m not sure if that’s just not more an attitude that people have or whether there’s any substance in that. It’s easy to blame them for things because they are wandering around, that is to say I have no first-hand knowledge of that.”

Homeowner N: “I... I would think there definitely is, the only concern is that they would still... they would be stealing it as a criminal to use it as a so called ‘bin picker’. So, you know it is a pecking order problem. But I think people would be thrilled to know that you know somebody with a particular trolley that says, ‘I am a certified bin picker’ and you don’t have to pay to be that. Because you know I’d love to hear their sides of the story, I really would but... I am happy to support a bin picker in any way as long as they respect the environment.”

Homeowner B describes the perception of crime increasing with the presence of waste pickers as an easy reason to blame waste pickers. Perceptions that are rooted in fear will likely cause

stronger opinions in people, as well as feelings of uncertainty. Homeowner N describes this uncertainty, noting that they have fears around people who pretend to be waste pickers and instead cause harm. This homeowner describes that they would feel less uncertain if there was a system to identify people who are waste picking and hold them accountable. A registration system is something that would assist waste pickers in circumstances where people have fears around their work, as in line with the plans from the EPR scheme where a database for waste pickers would ensure inclusivity of waste pickers in the recycling value chain (DEFF, 2020b). However, registration is also linked to ideas of formalisation, which is difficult in a case like this where the work is informal and flexible. These fears of crime that are linked to waste pickers are difficult to assess. It was suggested by homeowner participants that the statistics of crime that are recorded by the local security watch group should be investigated, to see if crime increases on bin collection days. A request was sent to the group to view these statistics, but access was denied and informed that one should look at the local police statistics. Police statistics would not be useful to the study because the Kirstenhof area which is reported on by the local station, includes many different suburbs, of which have different bin collection days.

4.4.3 Sub-theme 2.1: Resilience in Vulnerable Experiences

As has been discussed, the work that waste pickers do is physically and mentally challenging. Waste pickers are also in a position where the only other jobs they can find do not pay higher incomes than the incomes they already receive, or they are abused by those with more power over them, making waste picking an attractive or at least neutral alternative. This is in line with research by Yu et al. (2020), which found that many waste pickers quit their previous employment due to mistreatment from their employers.

Picker A: “But for me, I just do this to survive on a daily basis. Even if I can get a job, I will take the job, but I won’t work for less than I earn with this trolley. I know what I can earn with this trolley, you know?”

Picker A describes the freedom that waste picking provides them, in that they can always turn to this kind of work if they are not paid as much in a formal employment scenario. Picker A has adopted a resilient mindset in that they would rather accept the uncertainty that comes with waste picking than work in a formal job that pays very little.

Picker I: “I honestly don’t know, sir, because like... it’s a never-ending story in my area they

shoot they kill every day. There's children, young children dying. Yesterday, there was two. The day before, there was one. Everyday people is dying. I don't, I don't have words to explain how bad it is in my area. Just coming to this side, to this part of town is, is already hard. Going through all that. Cos like now, I'm trying to go back, I've got some money, now they're going to be more harsh on me, you see. So..."

Picker I describes how vulnerable they are in terms of their living environment, an environment that many waste pickers live in. There are multiple obstacles of threats from criminals that waste pickers must go through even just to get to the bins for collection, and then they face the same threats making their way to the buy-back-centres with their valuable recyclables, and then back home again with their earnings. They essentially become easy targets, as they are exposed when making their way on foot wherever they go, and have no group or support system to fall back on for protection.

4.4.4 Sub-theme 2.2: Experiences of Vulnerability in Terms of Societal Value

Waste pickers describe their relations and difficulties with homeowners in relation to the value they provide through their services.

Picker G: "Then they say it's you, but you didn't mess there. Then it comes to me I just say 'Okay pa, it's fine, I'll get that one who scratched now here,' because I saw him scratch there. And then I come back I say, 'You musn't do that because you make it difficult for us to scratch in that bin.' Because maybe now they just look now for food in the black bags and now that they didn't get food and now they throw the whole stuff. The next person have to pick it up and have to clean there. But okay for me it's not a problem."

Picker G explains a scenario in which waste pickers are verbally chastised by community members. They infer that the situation is not a problem and that they then clean up after other people who do not follow the waste collection methods desired by homeowners. The way in which Picker G describes the scenario implies that it is a common occurrence and that they have come to accept that they will be blamed by homeowners and will have to clean up around the bins. It could be argued that there needs to be more awareness brought to community member towards the challenges that pickers face in order to find solutions that can assist both groups (DEFF and DSI, 2020).

Waste pickers note that many people in the communities where they work are not pleased with their work, while also describing the value and importance of their work. They often view it something that is honest and that provides a means to support themselves and their dependents, as well as keeping the community clean by assisting in waste collection.

Picker C: “It’s a win-win situation. It’s definitely because at the end of the day, the waste people don’t have lots of work to do because I come here by the corner, there’s a lot of cardboard in and plastic only, no rubbish, maybe one rubbish bag. I will tell myself, okay I’m going to take the rubbish bag and put it on my trolley and take it away. Then, her bin is clean. I can push it in again, or maybe she will push it again. Less work for the council people.”

There is a perception from Picker C that the work being done by waste pickers has value to the level of municipal collection, as it reduces the amount of work for the municipality. Homeowner O had noted in their answer (page 62) that, when there are issues in municipal waste collection, waste pickers could provide a valuable avenue of support to waste collection services. However, while waste pickers know the value of their contributions in assisting council services, they are not recognised in this sense (DEFF and DSI, 2020).

Picker H: “Okay, when I started, it was a surprise for me how people are. So okay, some of them are like hmm, looking down on you, and there’s others again, that respects what you are doing. It’s a help cos if I must see now, there’s someone else at a bin and there’s papers, I will pick it up. Cos it keep it clean, everything clean.”

Picker H describes the various opinions that homeowners have of their work and the value that is perceived by outsiders on informal waste picking. The participant says that they felt surprised at the different reactions from community members towards their work. This answer implies that they are surprised that people would look down on their work. While it does not stop the work that waste pickers do, they understand that their work is not always valued by outsiders (Gutberlet and Carengo, 2020; Schenck and Blaauw, 2011).

4.5 Theme 3: Solutions

This section address objectives three which is “To investigate the homeowners’ perceptions and expectations of the waste pickers regarding solid waste management” and four, which is “To explore the waste pickers’ perceptions and expectations of the homeowners regarding solid

waste management”. Waste pickers’ proposed approaches to solutions did often not take the form of a systems approach or a policy approach. Waste pickers’ perspective on solutions were focused more on communication, empathy, and cooperation approaches. This is likely due to the feeling of inferiority that waste pickers may feel due to their vulnerable position, with little access to resources, within the power dynamics that exist between them and the homeowners. The waste pickers often identified a lack of understanding as a barrier to potential integration of waste pickers into a waste management system.

Homeowners’ perspective on solutions took more of a systems approach, in terms of building partnerships with local security companies or registering and identifying waste pickers with government bodies. There were also homeowners that were in positions where they contributed to charitable causes through recycling, or they did not wish to or were not interested in encouraging informal waste picking.

4.5.1 Sub-theme 3.1: Cooperation

Finding ways to cooperate with one another within the waste management system was a notion that was emphasised by both groups when answering questions pertaining to the research question. All 15 waste pickers participating in the study mentioned some form of working with residents to ensure that both groups are satisfied with the process of the waste collection. This was also found for all 15 homeowners, even those that viewed the work of waste pickers in a neutral or more negative light. Homeowners cooperating with waste pickers’ work is in line with Okonta and Mohlalifi’s (2020) research wherein residents have noted that they prefer for pickers to separate their waste. This also corresponds to the group named “community integrators” found by Samson et al. (2022:5) in their research into residents’ different methods of viewing and handling waste.

Many homeowners in this study (11, to be specific), said they would be willing to separate their recyclables from their waste in order to help the waste pickers. Other respondents said that they were already using recycling services, they felt loyalty towards other recycling schemes that support other community initiatives, or they were concerned with the inefficiency or mess that they perceive informal recycling to cause. It was found in conversation with homeowners that there are many small recycling companies, as well as other initiatives, that use recycling to fund their programmes. For example, a local shopping centre funds local parks, there are recycling programmes that support local schools, and some recycling initiatives

support adults with disabilities. Homeowner respondents also felt loyalty to the small businesses that they supported in paid recycling schemes.

Homeowner A: “Ya so I don’t, if I were to try and save waste in the sense of having another bag next door to the bin, they would pick through it and they would possibly say only take the bottles or the tins and leave everything else like plastics and so on might well be left behind because they have less value and then be sitting with an open bag with the wind blowing and so on and stuff spreading all over the road, so I wouldn’t be keen to do that.”

Homeowner F: “Well seeing as I’m recycling already, I wouldn’t have anything to put out which is recyclable.”

Homeowner G: “Ya, I could do that. I wouldn’t mind. Although I quite like to support the school as well.”

Homeowner O: “Yes, I do recycle. I’ll take it up to the Constantia. What’s the place called Constantia Village Recycling that supports our green belts.”

The answers from various homeowners demonstrate that people’s preferences for waste management and recycling management have personal and ethical ideas attached to them. It is understood from Homeowner A’s point of view that there is less efficiency in the recycling if they are to leave recyclables for waste pickers to take. The issue can be called “cherry-picking”, in that only the more valuable items are collected, therefore possibly causing litter issues for the items left behind. Samson’s (2022) research on homeowners is in line with the fact that people have different preferences for how they choose to recycle. It is difficult for waste pickers to meet the level of recycling expected from homeowners, as waste pickers have limited physical capacity to take items with very little value and great weight, such as glass. It is a challenging issue, as, from a pro-environmental perspective, it would be ideal to have all recyclables taken to buy-back centres. From a socio-economic perspective for the waste pickers, they live day to day and the waste collection has value for them to earn just enough to buy food to eat. This is in line with research from Yu et al. (2020), wherein pickers struggle to make enough to buy food for the day. They thus need to ensure they are collecting enough valuable materials to make a decent income for the day, meaning some materials will inevitably not be collected.

In terms of the waste pickers' perspective of cooperation with homeowners, Picker A describes what they feel to be the best solution for the continuous struggle between complaints from homeowners and the need for waste pickers to have access to recyclables.

Picker A: "You know, we as, what we as recyclers want from the people... like most of them complain about us scratching in the bin and stuff. So what we ask for them 'If you don't want me to get my recycling from the bin, why don't you put it in the bag?' Put it in the bag, put it outside on Mondays you know I come around Mondays, put it in a bag, put it outside. And when I come around I will say okay there's my recycling. Then I just come, for maybe two hours I pick up all my recycling, then I'm done..."

Separation at source to assist waste pickers' work has been identified as the strongest solution to improve waste pickers' working conditions (DEFF and DSI, 2020). The commitment from communities to assist in the process and to be willing to work with waste pickers can be a barrier to improving efficiencies in informal waste collection.

Picker D: "That's why I say, it's better to give them bags, and say to them write on the bags 'tins', 'cans', uhh 'plastic bottles' uh all the broken uh equipment like uh appliance, yes."

Picker D notes that other cooperation methods will assist both the waste pickers and the homeowners in knowing what to recycle and will enable the waste pickers to work without causing irritation to the homeowners. This comment links to the example in the Integration Guidelines (DEFF and DSI, 2020), wherein waste pickers and homeowners built familiarity with one another when stickers were placed on recycling bags, showing the face of the person who would collect it. Waste pickers spoke of the difficulties in collecting waste with limited time, as they are often asked to leave certain areas by certain times by security groups that are concerned with criminal activity. This was spoken of as informal curfews.

4.5.2 Sub-theme 3.2: Communication

The theme of communication was strongly generated by the waste pickers' perspective, mainly through needing better communication with communities in order for their work to be better understood. From the homeowners' perspective, a need for communication with the waste pickers did not surface, but rather a need to find mechanisms to work together.

Picker C: “For them to, as hulle if they rude. If they are like ag, such attitudes like. Hoe kan ek dit sê? It makes me angry inside but I do keep my mouth and so forth. That’s important for me because they don’t know what, what stress we sit with and so forth ma. The reason why we there by their bins scratching, they just think ‘ag they tripping’ or something like that man.”

The response from Picker C emphasises the one-way communication that the pickers feel occurs in their relationship with homeowners. The waste pickers’ responses show that they find it difficult to express the challenges they face in the unequal power relation with homeowners and the inability to speak up out of fear of losing access to the recyclables. Picker C’s response makes reference to the idea that homeowners make assumptions about the pickers’ circumstances, such as that they are trying to earn money for the sake of buying drugs. There is an understanding by the waste pickers that society may stigmatise their position and view it as being the cause of their personal choices rather than the socio-economic position they were born into, coupled with a struggling global economy. This scenario, of a waste picker feeling they do not have the ability to contribute to the narrative about their circumstances, also relates to the epistemological injustices named in Samson’s (2015) research. While in Samson’s study, the imbalanced power relation is found between waste pickers and their inability to contribute to policies, this research provides valuable insight into the narratives that are formulated by those with more power (Samson, 2015). In the relationship between homeowners and pickers, the common narratives on the lives of waste pickers can be detrimental to their income if they are viewed negatively and not allowed access to waste.

Existing positive communication between homeowners and waste pickers is something that waste pickers speak about in terms of the perception of the work that they do, which is found to improve their self-esteem and can lead to better relations with the community in general (Pholoto, 2018).

Picker C: “Like motivate me. There’s an old lady there, she lives here and who comes now and then, comes to see me when she sees we sorting our recycling there. Then she comes with a sandwich maybe and she compliments us on what we doing and so forth. She tells us she likes the positive and busy work. She sees us always through her window, keeping clean there and so forth. Ya, when people are like that.”

Positive community relations have shown to make a great impact on Picker C as they recall an encounter with a community member. Picker C specifically uses the word “motivate”, which links to ideas of recognition and value. Positive communication has shown to improve circumstances for Picker C, as also seen in examples from the Integration Guidelines (DEFF and DSI, 2020).

Some homeowners do not value the work that waste pickers do, as described by Homeowner F below. This is in strong contrast with the interaction that Picker C had with a community member. Based on the research, it seems that the majority of homeowners do not share Homeowner F’s opinion on informal waste collection.

Fieldworker: “Okay. And what do you think is the general feeling towards the waste pickers in your community?”

Homeowner F: “Nuisance, and uh because of them we have to have our own little rules in terms of when and where to put the bin out and to clear up after them if they make a mess, as some of them do. So, there are a few little confrontations with that, they don’t give a damn where they live. It doesn’t matter if you drop things on the ground and things like that. They don’t understand that our, our neighbourhood doesn’t actually work like that.”

Homeowner F has a negative perception of waste pickers, and does not value the services that they carry out. It is important to note that a strongly negative perception on the waste pickers’ work was not common in this study, but there were participants that felt their work was not providing great value. Homeowner F mentions the need for “confrontations”, which differs from the concept of communication. It is possible that the lack of communication pathways may have led this participant to feel frustrated. Some research has noted that better community participation in waste collection for formal collection services is important (Kubanza et al, 2021). It is likely that the same could be said for informal collection services, to avoid frustrations for both homeowners and waste pickers.

4.5.3 Sub-theme 3.3: Knowledge and Awareness

Homeowners either speak of the need for knowledge and awareness for the waste pickers’ work, or they often describe having knowledge gaps around aspects of waste pickers’ work or wanting some form of increased awareness by waste pickers on their issues around informal

waste collection.

Homeowner N: “I was just going to say it doesn’t have to be a formal, a formal education you know to them, because you know obviously that would be a fear. It has to be taught to them by somebody who speaks the same language and who knows where they have come from and where they want to go to. And they have to have... they have to be incentivised to have goals. And to, to see this as, this isn’t you know... where I’m going to be forever. This is a means to an end.”

Homeowner L: “So prior to that, I hadn’t actually thought of, of anyone benefitting from the waste picking as opposed... well any more than finding old blankets and old bits of food for themselves. Like I didn’t think of it as they’re finding things that they can then trade for an income.”

Homeowner N speaks about the kind of awareness that they feel needs to be communicated to waste pickers about the needs of homeowners. The participant also notes that knowledge and awareness are needed for waste pickers in terms of enabling them to take further steps in their lives and to improve their circumstances. This is in line with the aims of the integration guidelines, in ensuring waste pickers are empowered to improve their circumstances through their work (DEFF and DSI, 2020).

Homeowner L describes their own knowledge and awareness on waste picking, and how they did not question the work that waste pickers do and were unaware of the fact that waste pickers were recycling goods, not just collecting goods. This speaks directly to the misconceptions that communities might have about waste pickers, clearly indicating that there is a large information gap in communities, which has the potential to lead to contrasting expectations. There may be a need for research into the general awareness and perceptions of informal recycling across South Africa.

Homeowners in the study also speak of their perception on the amount of recycling activity in their area from other community members. The interest in recycling is found to be varied, and that there are many who do recycle and many who do not, even though all of the participants in this study do recycle. The difficulties in this are that, if communities do not see value in recycling, then there is not great potential for waste pickers’ work to be valued and therefore

to advocate for their integration into the waste management process.

Homeowner J: “Very difficult. Hardly know any of the people... okay I have to go by... I see the guys going past with their trolleys, high on high. Seems to be a lot more piling high than it used to be. Perhaps because people are now deliberately putting out and not doing what I do. So, it’s difficult for me to answer that question properly. But I definitely have noticed that when the pickers come past, their trolleys are very large. Not large, put piled high. They don’t have large trolleys, there’s only one size of trolley.”

Homeowner J notes the great amount of recyclables that waste pickers collect to estimate the amount of recycling done by community members. Integration for waste pickers will likely be more complicated if the overall value in recycling is not recognised by community members. If there is lack of value placed in the act of recycling, this would be in line with nationwide research by Strydom (2016), wherein only 7.2% of participants in the study reported regularly practising recycling.

4.6 Theme 4: Appreciation

Appreciation came through as a significant theme wherein homeowners felt that the work that waste pickers do was a positive contribution to society as well as a path towards improving the livelihood of waste pickers. This section addresses objective five of the study which is “To determine perceptions of both groups in terms of opportunities and barriers for waste picker integration”. Appreciation is an opportunity to improve on integration. Waste pickers both recognise the appreciation that they are given for their work, as well as feeling appreciation towards the homeowners who collaborate with their work. These findings of appreciation, especially from homeowners, are interesting, as it contradicts a common narrative found in some local newspapers, where waste pickers are depicted largely in a negative light (Constantia Bulletin, 2021). This narrative includes homeowners who would prefer to privatise or formalise recycling in order to ensure waste pickers are can no longer work near their homes (Constantia Bulletin, 2021). Below is an example where a homeowner finds appreciation in waste pickers creating an income stream for themselves where there is little opportunity for any other.

Homeowner B: “Um, I guess I appreciate the fact that they’re trying to make an honest living in tough circumstances.”

Homeowner B recognises that waste pickers have consciously chosen a challenging line of work in order to earn a living in a legal manner. It is unclear whether there is real value seen in the waste pickers' contributions in this perception from Homeowner B. It is rather an appreciation of the fact that waste pickers choose honest work instead of turning to crime. It is possible that the recycling work that waste pickers do is not seen as truly valuable, but rather only as honest work by homeowners. Many people have the perception that people may turn to illegal and criminal opportunities to earn an income in desperate situations, and therefore find it commendable that waste pickers do not. As already noted, waste pickers potentially recycle as much as 90% of recyclables in South Africa (Godfrey et al., 2016). The perception that their work is not appreciated for the value it brings to the recycling sector is a barrier to integrating waste pickers across South Africa's waste management systems. This is not true for all homeowners in the study, as Homeowner O, for example, expressed appreciation for the gap that waste pickers manage to fill where council waste management systems are sometimes unable to keep up.

Homeowner O: "Yeah, yeah, well, you know actually I think I actually think it's becoming important as far as waste management is concerned. I don't know if you know, but there's just been a report from City Council saying that Friday bin collection is not going to happen because they haven't renewed the contracts. So, you know the whole infrastructure. I think they need bin pickers to, to help assume that they sell the stuff on to people who buy it and recycle it."

This homeowner's answer to waste management issues in the area considers waste pickers a viable solution to the growing problem of over-accumulation of waste in urban areas. This perception of their work describes waste pickers providing value to the waste management system, which was not in line with the general sentiment of homeowners in the study. Describing waste pickers as an aid to formal urban systems is a perception of the reliability that waste pickers display in their efforts to collect waste. It must also be noted that their reliability to collect waste is driven by the need for survival, in line with research findings from Yu et al. (2020).

From the waste pickers' perspective, there was appreciation for the homeowners that accommodated and assisted their work, in various ways. Waste pickers understand that they are in an inferior societal position to homeowners, and that homeowners have various options other than waste pickers to manage their recycling. As noted by homeowners, there are various

recycling initiatives in the given area of the study that they often prefer to support, therefore waste pickers are often in competition with other recycling initiatives, Picker I describes this position below.

Picker I: “I would just ask them if they’ve got recycling. They don’t *need* to give us but like they do have a tendency to give out of their heart, and I do appreciate that because they don’t have to do that for us. They can take their recycling themselves to the recycling place, you know? Like, it’s a good thing.”

As previously mentioned, a limitation of this study is that the homeowners who were interviewed are those that already value environmental sustainability, as well as supporting community initiatives. All homeowner participants reported consciously practising recycling in their household, and it is likely that waste pickers may not be able to provide the kind of recycling services that they desire. Waste pickers are likely to provide more value to the environment and relief to council services where homeowners do not intentionally recycle their goods. Waste pickers provide a great amount of convenience to homeowners who are unable to or who do not want to separate their waste, as well as a great amount of relief to council services, as they save up to R750 million worth of landfill space per year (Godfrey et al., 2016).

Further research in this area could identify how much more waste pickers could contribute to more efficient waste management practices if their work was supported by local governments. Waste pickers in the study reported that materials such as glass or cheaper plastics were not economically viable to collect for a day’s work. Research into possible support systems to help enable waste pickers to collect more materials could also help to identify how efficient recycling systems could be with more support.

4.7 Summary

This chapter presented the key findings from the research. It was found that the socio-economic circumstances and educational levels of the homeowners and the waste pickers in this area differ greatly. All of the homeowners have completed high school, whereas only 20% of waste pickers had completed high school. This gap is likely to cause misunderstandings between an economically under-resourced group and a group that has more freedom of choice and economic influence over their own lives. This gap is also evident in the number of women that were able to participate in the study amongst the homeowners versus the much smaller number

of women amongst the waste pickers, most likely because women waste pickers can only work during hours of the day when they are safer. The waste pickers reported mostly working in their roles for between one and five years, and the other half of the group reported various lengths of time working as a waste picker of up to 25 years. It is evident that waste picking is often a temporary job when they are not able to find another stream of income. The homeowners were found to be very settled in their homes, with the majority living there for more than 10 years. Because of this it may be difficult to build consistent relationships and trust between the two groups, with one being static and the other more transient.

The study was, in a sense, very focused on recycling as an action, and the groups gave their reasons for why they hold certain perceptions and why they behave a certain way in terms of their motivations. The homeowners were found to be primarily motivated to recycle by environmental ethics, whereas the waste pickers are mainly motivated by social and economic need, in order to support themselves and their families through economic gain. Both groups reported about their experiences of vulnerability, an important theme in the research. The homeowners and the waste pickers both fear crime, but the homeowners fear that the waste pickers increase the likelihood of crime affecting them. The pickers, in turn, have multiple experiences of vulnerability in physically being exposed to crime, being resilient to these circumstances and navigating their working limits in how society values their work. Both groups also mentioned the importance of solutions, but the homeowners were more inclined to propose solutions for waste picker integration and for improving recycling activity in the area, with a focus on knowledge-sharing and action-oriented solution, while the waste pickers mainly spoke about solutions in terms of gaining understanding and communication. Lastly, the theme of appreciation was identified as a separate perception held by both homeowners and waste pickers for the contributions that both groups make towards their individual lives and society as a whole.

Chapter 5: Conclusion

This study has shown that there are many dynamics at play within the waste collection process within a single community. The various perceptions held by stakeholders in waste management could cause barriers to improvements and integration of informal and formal waste collection. The study found that the municipal waste collection within a Cape Town upper-middle-class suburb is mostly efficient, with minor inconveniences that occur, and that street waste pickers also operate in this suburb to collect recyclables. The research focused primarily on exploring the perceptions and expectations of homeowners and waste pickers towards each other. There is recognition from community members that capacity issues faced by the municipality could be assisted by waste pickers, who are already experienced in waste collection. It must be noted that this was not the general sentiment from most homeowner participants who either viewed their work as inefficient, or not more than a means of charity.

The social constructionism framework that guided the study, ensured that the meaning of the perceptions and values that participants held was evaluated in terms of their real lived experience, and how this could negatively or positively affect the lives of the respective groups. This framework was appropriate in terms of guiding the methodology of a participatory approach in the research, where participants were able to pose questions to the group that were not associated with, in order to find answers that are relevant to both groups of participants. In terms of social constructionism, this allowed participants to not only feel that the study was relevant to their lives, but that the outcome of the study would be something that was constructed by the meaning that they themselves held on to the topic of waste picker integration. This was a lesson in understanding how research has the potential to contribute meaningfully and in a useful manner to participants lives, when they are included as stakeholders in the research process.

Homeowners mostly view waste pickers' role in the waste system not as value adders, but rather as providing value to society by choosing honest and law-abiding work. Waste pickers expressed the negative perceptions that communities frequently attach to them. Waste pickers felt that others often view them as drug abusers, dirty, criminal, or inferior, and that they work in these roles by choice. These negative perceptions by homeowners – and the research indicates that some, though not all, homeowners do share these views of waste pickers – have the potential to prevent waste pickers from doing their work if homeowners begin to advocate

for barring waste pickers from their suburbs or barring their access to waste.

The study found that homeowners frequently misunderstand the work that waste pickers do. For example, they are not always aware that waste pickers collect the materials for recycling, and they do not know much about waste pickers' lives or the reason they do their work, which is primarily to provide them with an income. There could be further research into the level of understanding that South Africans have of waste pickers, as this study was done on the assumption that communities who lived in these chosen areas were exposed to waste pickers and knew their work. Waste pickers also noted those community members who support and encourage them, and indicated that they feel appreciated by many community members who actively support their work.

Interviewing homeowners also revealed varied perceptions on the waste pickers. Some homeowners feel negative towards pickers, some feel indifferent, and others encourage active integration of waste pickers in community waste collection. Negative perceptions are likely to make the greatest impact, especially if there are concerns around criminals. It seems that the compromise the community has found is to only allow waste pickers to work in the area until a certain time in the morning, as homeowners wish to limit any potential opportunities for crime. The mix of perceptions in a given community likely reflects how the majority of the community feels. The research also indicates that there is little communication between homeowners and waste pickers, which could create a barrier for understanding the value that waste pickers provide to the recycling sector.

Further research could assess whether crime does in fact increase on days when there is informal waste collection, and whether there is any correlation between these two factors, as this was a major concern for most of the homeowners. Another topic that was discussed is that homeowners perceive waste pickers as causing excessive littering, and, if waste pickers are to be integrated into the waste collection system, would expect waste pickers' activities not to cause any additional littering. There is recognition from the homeowners that many of the waste pickers work in their roles due to limited opportunities, although, as mentioned, the research indicated that many homeowners were also not fully aware of the reasons why people engage in waste picking. Many homeowners are also of the opinion that the waste picking is something that they tolerate but they would ultimately rather not have waste pickers working in their community. However, there was not a strong consensus amongst homeowners, as

homeowners varied so greatly in their stance on the value of waste picker integration. The homeowners who participated in the study generally did not see a great deal of value in informal waste collection, although they generally have a strong sense of sympathy for the work that waste pickers do. This perception could potentially be a large barrier to waste picker integration, as homeowners would likely see more value in formalising recycling systems, which would exclude waste pickers from the recycling value chain entirely.

Waste pickers expressed that the opportunity to access recyclables is what they need the most, and there is an expectation that homeowners should not be verbally abusive towards waste pickers in the process. Waste pickers described frequent experiences of verbal abuse in the course of their work. There is a perception from waste pickers that homeowners may perceive waste pickers to be in their roles due to bad decisions made in their lives. Their perception is that if homeowners knew how waste pickers came into their roles, and why they do their work, their work would gain more support in future. Knowledge and awareness around how and why the waste pickers work was thus a significant interest factor amongst participants. This kind of recognition may be an important enabling factor for improving the working conditions of waste pickers. Where homeowners have concerns of litter and mess, waste pickers expressed that the simple solution to this concern is separation at source from the homeowners.

The main factor that could limit the effective integration of waste pickers identified in the study is the lack of communication between the two groups. Better communication pathways could provide for knowledge sharing and enable discussions wherein both parties could contribute to plans with regards to the waste collection process.

Further research prompted by this study could be to investigate the various recycling activities that promote welfare in different areas in South Africa. This study found that there were at least three separate social and environmental causes that recycling promoted and that homeowners also felt that it was important to support the small recycling businesses that operated in the area, in addition to the other community initiatives that recycling was supporting.

Policy towards waste picker integration mentioned in the EPR regulations (DEFF, 2020b) does not mention a mechanism to empower waste pickers in their work, and does not consider which mechanisms could be most effective for homeowners to participate in recycling schemes. These considerations also need to include how relations between service groups and user

groups can function practically on a day-to-day basis.

Overall, based on the research results, the idea that waste pickers' roles can be established and fully accepted in communities appears to still be an undeveloped and unprecedented idea. As long as the positive outcomes of recycling are not valued, and while homeowners and residents remain unaware of the value that waste pickers provide to the recycling sector, integration will be difficult to implement in local municipalities. Although waste picking has been carried out for decades, and waste pickers have long been providing value as established recyclers, the path to waste picker integration has many complications around how and if waste pickers will be accepted in communities and alongside formal services.

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Appendix A



QUESTIONNAIRE FOR WASTE PICKERS WORKING IN BERGVLIET SECTION A

This set of questions relates to the personal background of the respondent you are interviewing.

1. Do you work in Bergvliet

Yes	No
-----	----

THIS QUESTION REQUIRES A YES ANSWER TO PROCEED WITH THE QUESTIONNAIRE – otherwise do not proceed with questionnaire.

2. Respondent's Gender

Male	1
Female	2

3. What racial group does the respondent identify by?

African/Black	1
Coloured	2
White	3
Indian/Asian	4
Other	5
If other, please specify	

4. What is the **highest** school or tertiary qualification you have **passed**?

Grade

0	1	2	3	4	5	6	7	8	9	10	11	12
Post School Qualification												13
Please mention the Post School qualification.												

5. Where do you usually stay?

6.

SECTION B

This set of questions relates to the respondent's work as a waste picker

7. Why did you start waste picking?

8. How much (on average) do you earn daily?

9. How much did you earn the last time you sold recyclables?

10. Do you support other people/children on this income?

Yes	No
-----	----

If yes, how many people?

11. Do you receive a government grant?

a.

Yes	No
-----	----

b. If no, would you like to receive one?

12. When did you start waste picking?

13. At what time of the day do you usually start with collection?

	am
	pm

14. What time in the day do you stop working?

	am
	pm

15. What time is the best for you, for the bins to be put outside of houses?

16. Do you have to separate your waste before arriving at the buy-back-center?

Yes	No
-----	----

17. a. Do you ever store recycling waste somewhere?

Yes	1
No	2
If yes, please explain where you store the waste.....	

b. If NO: :

Would you like to be able to store waste somewhere?

Yes	No
-----	----

18. Which buy-back-center/s do you take your recyclables to or which is your buy-back-center of preference?

19. Do you have interactions with the people who work on the municipality waste trucks?

a.

Yes	No
-----	----

b. If the above answer is YES, what is that like?

20. Do you have interactions with private companies who collect waste? Like the bakkies and trucks that collect waste?

a.

Yes	No
-----	----

b. If the above answer is YES, what is that like?

SECTION C

This set of questions relates to relations with residents

21. What about your work do you think is important to the public?
22. What are some of the most difficult things about your work?
23. What are your interactions like with the residents of Bergvliet and around? (i.e do you speak to them, do they keep their waste for you, how do they treat you?) Please describe some of your experiences.
24. What behaviors or actions from the residents that you collect waste from, are important to you? Especially in and around Bergvliet?
25. Do the residents do things, say things, or give things to you that help your work and life?
- a.

Yes	No
-----	----

If the above answer is YES:

- b. What are these things that they do or say that help you?
26. What things CAN the residents do with their waste to help you in your work and life?

IF SEPARATING WASTE IS NOT MENTIONED:

ask the next question...

27. Would you like residents to separate their recyclables for you?

a.

Yes	No
-----	----

- b. If the above answer is yes, why?
- c. If the above answer is no, why?

28. What do you receive from the residents other than the recyclables, that helps your work and life (such as food, clothes, etc)?

29. Is there anything you would like to receive from the residents that would help your work and your life?

Yes	No
-----	----

If the above answer is yes, could any of these items be relevant to you?

Food	1
Clothes	2
Luggage, bags or suitcases	3
Wheelbarrow	4
Water	5
Something with wheels(for transporting waste)	6
Gloves	7
Shoes	8
Access to toilet	9
Access to a tap	10
Children's Clothes	11
Child Care Items	12
Sanitary Products	13
Other.....	

30. Residents are concerned for the pickers health and safety when working in bins. Would you like to wear gloves if they were given to you?

a.

Yes	No
-----	----

b. If the above answer is no, why not?

31. Many residents say they want all their recyclables to go to the buy-back-centers.

- a. Is it possible for waste pickers to take ALL the recyclables to the buy-back-centers? (e.g paper, glass, plastic, polystyrene)

Yes	No
-----	----

- b. If the above answer is NO, please explain the difficulties in this, why can some things not be taken even when they can be recycled?
- c. What can be done, and who can help to get most of recyclable materials to the buy-back-center?
- d. What materials are worth carrying for your time and effort to take to the buy-back-centers and WHY?
- e. What do you do with the materials that are not worth your time and effort?
- f. Residents often do not know what can be recycled at buy-back-centers. How can waste pickers help to educate the public about recycling in Cape Town? Or what do you think would be a good way to educate the public about recycling?

32. The residents are concerned about waste being left on the pavement, or out in public. What are the issues around this for your work and why do you think this might happen?

33. Residents are concerned about criminals following waste pickers into the neighborhoods, have you had issues with this before?

a.

Yes	No
-----	----

b. If YES, what are the issues?

34. What can pickers and the community do to prevent criminals disrupting their work and the communities they work in?

35. What could a registration system for pickers do to help make your work easier?

36. Do you want to be part of an organization for waste pickers? (Like the African Reclaimers Organization (ARO) and SAWPA, where pickers in Johannesburg come together and support one another)

a.

Yes	No
-----	----

b. Please explain why you feel this way.

SECTION D

This set of questions relates to what the pickers would like us to ask the residents who put their binds out

37. What would you like us to ask the residents as a waste picker working in these areas?

38. What would you like the residents to know about your work and your life as a waste picker?

39. What is your biggest concern in working with the residents in Bergvliet and around?

40. Would you like feedback from the study?

Yes	No
-----	----

41. If the above answer is yes-

42. What is the best way to receive this feedback?

Appendix B



QUESTIONNAIRE FOR HOMEOWNERS IN BERGVLIET

SECTION A

This set of questions relates to the personal background of the respondent you are interviewing.

1. Do you live in Bergvliet/ Meadowridge/Kreupelbosch?

Yes	No
-----	----

THIS QUESTION REQUIRES A YES ANSWER TO PROCEED WITH THE QUESTIONNAIRE – otherwise do not proceed with questionnaire.

2. Respondent's Gender

Male	1
Female	2

3. What racial group does the respondent identify by?

African/Black	1
Coloured	2
White	3
Indian/Asian	4
Other	5
If other, please specify	

4. What is the **highest** school or tertiary qualification you have **passed**?

Grade

0	1	2	3	4	5	6	7	8	9	10	11	12
Post School Qualification												13
Please mention the Post School qualification.												

5. How long have you lived in this home or in this area?

SECTION B

This set of questions relates to the respondent’s attitude towards recycling.

6. Do you recycle?

a.

Yes	No
-----	----

b. If no, why not?

c. If yes, why do you recycle? How do you recycle? What do you do with them? (for the pickers, themselves, the private companies, if other explain?)

7. What happens with the recyclables? Who do you give it to?

8. In your opinion, how does your community take part in the recycling rate?

SECTION C – this set of questions relates to the issues of waste management in the area

9. a. What are the issues around waste management in your area?

b. What do you think could be solutions to these issues?

10. a. Has there ever been a two bag system in your area?

Yes	No
-----	----

b. If yes, what did you think of that system?

SECTION D

This set of questions relates to relations with the pickers

11. Do you have interactions with the waste pickers in the area?

a.

Yes	No
-----	----

b. If the above answer is YES, describe your interactions with the pickers?

c. If NO, why NOT?

12. What do you appreciate about the waste pickers in your area?

13. What are your concerns about the waste pickers in your area?

14. Do any of these concerns relate to you? (rank importance from 1-4)

Health and Safety	
Criminal Activity Following the Pickers	
Mess in the Area	
Uncertainty	
Space for other:	

15. How can these concerns be addressed?

16. What are your expectations of how pickers should handle waste?

17. What do you think the general feeling is towards the pickers in your community?

SECTION C – this set of questions relates to things that are important to the pickers

18. Would you be willing to separate your waste for the pickers?

a.

Yes	No
-----	----

If the above answer is NO:

b. Why would you NOT be willing or able to do so?

19. The pickers that work in the area have concerns and fears of criminals. Their full trolleys are often stolen and they are threatened while doing their work. Is there a way the community can support or prevent this?
20. Pickers say that they are very aware of their reputation in the areas that they work. Why do you think the pickers have to be very conscious of their activities in the areas they work?
21. What do you think about waste pickers expertise in recycling?
22. If the pickers are accepted as part of the waste management process, how can relationships be built with these workers for effective recycling management?

SECTION E

This set of questions relates to what the residents would like to know from the questionnaire from the pickers

23. Would you like to know what the pickers regularly recycle?

Yes	No
-----	----

24. Would you like to know what the pickers like to receive other than waste? Eg. Food or something

Yes	No
-----	----

25. Would you like feedback from the study?

Yes	No
-----	----

Appendix C



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

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9 February 2022

Sally Fraser
Department of Environmental and Geographical Sciences

Exploring Expected roles and responsibilities of waste pickers and homeowners in the waste pickers integration process: A case study

Dear Sally Fraser

I am pleased to inform you that the Faculty of Science Research Ethics Committee has approved the above-named application for research ethics clearance, subject to the conditions listed below.

- The fieldwork protocol must be signed off by the relevant compliance officer before fieldwork commences.
- Restrictions on involving human participants in research must be adhered to, given current concerns about the spread of Covid-19. Please ensure that you are aware of and comply with UCT policy on this, as communicated by management.
- Implement the measures described in your application to ensure that the process of your research is ethically sound; and
- Uphold ethical principles throughout all stages of the research, responding appropriately to unanticipated issues: please contact me if you need advice on ethical issues that arise.

Your approval code is: **FSREC 008 – 2022**

I wish you success in your research.

Yours sincerely

Dr Shari Daya
Chair: Faculty of Science Research Ethics Committee

Appendix D

DEPARTMENT OF Environmental and Geographical Sciences

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RESEARCHER/S: Sally Fraser
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URL: <http://www.egs.uct.ac.za/>



Informed Voluntary Consent to Participate in Research Study

Project Title: Exploring Expected roles and responsibilities of waste pickers and homeowners in the waste pickers integration process: A case study.

Invitation to participate, and benefits: You are invited to participate in a research study conducted with community members of Bergvliet and the waste pickers who work in the area. The study aim is to identify the perception of the roles and responsibilities of both homeowners and waste pickers in the waste management system. Identifying the perceptions of both parties can be useful knowledge for the waste picker integration process. The study aims to identify the barriers and opportunities for effective communication pathways between the two groups. I believe that your experience would be a valuable source of information, and hope that by participating you may gain useful knowledge. All the above information can be elaborated on further in the handouts provided, and we are happy to expand on any of the above details in an oral format.

Procedures: During this study, you will be asked to answer questions on your perceptions of the other party, and what you expect from them in terms of their role in the current waste management system.

Recording: We may record audio as part of the study. This will help in making data analysis most effective and will be used in identifying themes and common issues found. If you object to this, please indicate below.

Risks: There are no potentially harmful risks related to your participation in this study.

Feedback: You will receive feedback about the results of this research by a document that has identified the general perceptions the participants have about the individual roles in the waste management system. This feedback serves to help both parties understand the perceptions and difficulties of other participants in the study, and where there are common issues or opportunities found across the results.

Disclaimer/Withdrawal: Your participation is completely voluntary; you may refuse to participate, and you may withdraw at any time without having to state a reason and without any prejudice or penalty against you. Should you choose to withdraw, the researcher commits not to use any of the information you have provided without your signed consent. Note that the researcher may also withdraw you from the study at any time.

Confidentiality: All information collected in this study will be kept private in that you will not be identified by name or by affiliation to an institution. Confidentiality and anonymity will be maintained as pseudonyms will be used.

What signing this form means: By signing this consent form, you agree to participate in this research study. The aim, procedures to be used, as well as the potential risks and benefits of your participation have been explained verbally to you in detail, using this form. Refusal to participate in or withdrawal from this study at any time will have no effect on you in any way. You are free to contact me, to ask questions or request further information, at any time during this research.

I agree to participate in this research (tick one box) Yes No _____ (Initials)
I agree to be audio-recorded Yes No _____ (Initials)
I agree to the use of properly anonymized audio recordings Yes No _____ (Initials)

Name of Participant

Signature of Participant

Date

Sally Fraser
Name of Researcher

Signature of Researcher

Date

Appendix E

Faculty of Science HUMAN PARTICIPANTS FIELDWORK CHECKLIST

Signatures

	30 November 2021
Research Supervisor (for post-grad student/s)	Date
	15/02/2022
Departmental Compliance Officer	Date
	16/2/22
Head of Department	Date

November 2021