



Perspectives of role players on waste picker integration in the formal waste management sector

DM Seabi

 **orcid.org/0000-0001-8584-623X**

Dissertation accepted in fulfilment of the requirements for the degree *Master of Environmental Management with Waste Management* at the North-West University

Supervisor: Dr L Kruger

Graduation July 2022

34661522

DEDICATION

Dedicated to my mother ... who rests in Heaven, and whose words "*stay in school*" I will forever honour.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to a community of people without whom this study would never have borne fruition:

My supervisor Dr Leandri Kruger for her continued supervision, patience, motivation, and encouragement, when I thought all hope was lost. Her constructive criticism contributed to the successful completion of this research study.

My family, especially my son Kamogelo, for always understanding that his mom had to study.

My mother and mentor Lilly, for always encouraging and motivating me to push harder when I thought of giving up.

My siblings, Tokelo and Reginah ... Thank you for always standing in for me and taking care of my son while I had to be away at school.

All my friends more especially, Khuliso, Pamela and Fortune, for their constant encouragement, support and advice during my studies.

Fellow study mates Motlanalo and Ntsoakeleng whom I travelled this journey with, I will forever cherish the ups and downs we experienced together.

But more importantly, my sincere gratitude goes to all the people and institutions that took part in this research study, their insight, interest and time will forever be appreciated.

Finally, I am forever appreciative to the North-West University (Potchefstroom Campus) for the financial support provided to assist me complete this academic journey.

ABSTRACT

The informal waste sector is increasingly becoming a crucial part of the formal waste management sector. In recent years, the formal waste management sector around the globe have started discussions about transforming the role of waste pickers in the formal waste management sector. The subject of integrating waste pickers in the formal waste management sector has been recognized as a priority in many developing countries such as South Africa. Most municipalities in South Africa have started to integrate waste pickers in their waste management systems, however, there is no commonly agreed definition, and coherent approach to implement waste picker integration. Scholars argue that the term integration is a socially constructed concept which is not defined in policies. The lack of common understanding of what waste picker integration entail, has led to varied understandings and interpretations among role players in the formal waste management sector. In South Africa, the Department of Environment, Fisheries and Forestry (DEFF) published the Waste Picker Integration Guideline for South Africa in the year 2020, to guide role players in successfully integrating waste pickers in the formal waste management sector.

This research study aimed to investigate the perspectives of different role players on the integration of waste pickers in the formal waste management sector. Subsequently, two research objectives were set: (1) to investigate the different views of role players on the integration of waste pickers in the formal waste sector; (2) to determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. In order to reach these objectives, this study followed a qualitative research approach by collecting data through semi-structured interviews. A structured questionnaire was employed which consisted of open and close-ended questions to a sample of 19 participants, who represented municipalities and buy-back centres (BBCs) in the Gauteng province. Participants were selected through employing the purposive and snowball methods. A thematic data analysis was implemented with responses grouped and divided into themes.

The findings revealed that, role players understood and acknowledged the role of waste pickers in the recycling economy, and commonly defined the integration of waste pickers as the formal inclusion of waste pickers to the formal waste management sector. The registration of waste pickers in the institutions' database and integrating waste pickers through cooperatives were quoted as the most common implemented approaches by role players at different institutions in the formal waste management sector. While the registration of waste pickers in the institutions

database and organizing waste pickers into cooperatives are international best practice with evidence of success in Brazil and India, in Gauteng the success rate appears to be unpromising.

It has been concluded that role players develop and implement waste picker integration approaches according to their own interpretations of what integration mean. A year later after the publication of the Waste Picker Integration Guideline of South Africa, role players in the Gauteng province did not follow the steps suggested in Section H of the guideline, as a result, there are still an inconsistent understanding of waste picker integration among different role players. This research study recommends that in order for municipalities to successfully integrate waste pickers in their waste management systems, the integration strategies should be included in the Integrated Development Plans (IDPs) of the municipalities to ensure budget allocation for the integration activities.

Keywords: Waste Picker, Waste Reclaimers, Waste Picker Integration, Informal Waste Sector, Waste Recyclers.

ABBREVIATIONS AND ACRONYMS

BA	Bachelor of Arts
BBC	Buy-back Centre
B.Sc.	Bachelor of Science
B-Tech	Baccalaureus Technologiae
CBO	Community-Based Organization
COGTA	National Department of Cooperative Governance and Traditional Affairs
CoJ	City of Johannesburg
CoT	City of Tshwane
COVID-19	Coronavirus 2019 Pandemic
DEFF	Department of Environment, Forestry and Fisheries
DFFE	Department of Forestry, Fisheries and Environment
DEA	Department of Environmental Affairs
EISD	Environment and Infrastructure Services Department
EPR	Extended Producer Responsibility
EU	European Union
IIWTMP	Integrated Industry Waste Tyre Management Plan
IWMP	Integrated Waste Management Plan
JMPD	Johannesburg Metropolitan Police Department
KKPKP	Kagad Kach Patra Kashtakari Panchayat
MOA	Memorandum of Agreement
M.Sc.	Master of Science

M-Tech	Magister Technologiae
MSWM	Municipal Solid Waste Management
NEMA	National Environmental Management Act No. 107 of 1998
NEMWA	National Environmental Management: Waste Act No. 59 of 2008
NGO	Non-Governmental Organization
NWMS	National Waste Management Strategy
NWU	North-West University
PETCO	PET Plastic Recycling Company
Ph.D.	Doctor of Philosophy
PMC	Pune Municipal Corporation
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
REP	Reclaimer Empowerment Plan
SAPS	South African Police Services
S@S	Separation at Source
SAWPA	South African Waste Pickers Association
SMME	Small, Medium and Micro Enterprise
SWaCH	Solid Waste Collection Handling
SWM	Solid Waste Management
WEEE	Waste Electrical and Electronic Equipment
WIEGO	Women in Informal Employment: Globalizing and Organizing

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CHAPTER 1 INTRODUCTION

1.1 Background

Waste generation is a result of urbanization, population growth and economic development (Kaza *et al.*, 2018:18). It is estimated that more people will be middle class than poor by 2030 (da Silva *et al.*, 2019:80), and this will increase to over two thirds by 2050 (Coletto & Bisschop, 2017:284; Kaza *et al.*, 2018:18). This means that, the more cities become populated due to economic activities, the more they face corresponding amounts of waste that should be managed through treatment and disposal. Waste management has become a defining factor for the urban habitability in developing countries, with half of the world's population living in cities (Coletto & Bisschop, 2017:284). The Municipal Solid Waste Management (MSWM) sector for low and middle-income countries is faced with challenges as a result of these developments (Aparcana, 2017:593), especially in the less economically developed countries (Coletto & Bisschop, 2017:284).

Africa in particular is urbanizing faster since in the late 1990s and is expected to double between the years 2020 and 2050. The rapid growth has been driven primarily by high population and reclassification of rural settlements with two thirds of the population absorbed by urban areas (Heinrigs, 2020:19). Coletto and Bisschop (2017:284) indicates that in most developing countries, effective waste management is lacking, with little technical infrastructure and adequate resources. Schenck *et al.* (2019:80) further adds that, the reason for inadequacy in managing waste service in particularly in Africa, is mainly due to the burden on municipal budgets exacerbated by lack of skills and knowledge of officials responsible for waste management. Open illegal dumping and burning of waste is a common practice in many African countries, resulting in a variety of environmental and public health problems (Coletto & Bisschop, 2017:283). The next sub-sections will provide a snapshot of global waste management with some statistics on the biggest waste producers and the most produced waste streams worldwide. Further in this section is the description of the formal and informal waste management sector, and the role of the informal waste sector in recycling and the informal economy.

1.1.1 An overview of global waste management

According to the World Bank (2018), the world generates 2.01 billion tonnes of municipal solid waste annually, and 33% of that waste is not managed in an environmentally safe and sustainable manner. Global waste is expected to increase to 3.4 billion tonnes by 2050, and about 37% of the global waste is currently disposed of in some form of a landfill, eight percent (8%) of which is disposed of in a sanitary landfill with a landfill collection system (Kaza *et al.*, 2018:3). Illegal

dumping accounts for about 33% of the global waste, 19% of this waste is recovered through recycling and composting, whereas 11% is incinerated for final disposal (Kaza *et al.*, 2018:5). In developing countries, waste is also often disposed of at hazardous landfill sites. Economically developed countries produce more waste than less economically developed countries, they however, have better waste management systems to deal with waste issues (UNEP, 2015:59). The biggest producers of waste worldwide are the United States of America (USA), due to the US population and economic activities, while China is responsible for the largest share of global municipal solid waste at more than 15% (UNEP, 2015:60). The US accounts for less than five percent (5%) of the global waste but produces around 12% of the global Municipal Solid Waste (MWS) (Statista, 2021).

Global waste consists of different material such as paper and cardboard (17%), plastic (12%), food and garden waste (44%), rubber (2%), glass (5%), metal (4%), wood (2%), and other (14%) (Statista, 2021). Plastic waste has received much attention recently as a result of its environmental impact, especially on marine life (UNEP, 2015:59). Waste from electrical and electronic equipment also known as E-waste is the fastest growing waste stream globally with more than 50 million metric tonnes in 2019 and is expected to increase by an estimated 20 million metric tonnes in the next decade, with generation per capita higher in rich countries (Statista, 2021).

The amount of waste generated may affect the environment in multiple ways, such as effects on climate change through the release of methane gas at the landfill sites, impacts on wild and marine life, and public health. Besides the negative impacts associated with waste, waste also consist of materials that are valuable and that can be recycled (Coletto & Bisschop, 2017:284). In the informal economy, mostly unemployed people leap to reclaim recyclable material out of waste, to generate an income (Sekhwela, 2017:2). Informal employment has increased in many parts of the world, and it remains an important source of income in developing countries (UNEP, 2015:176). An estimated 15 million people globally, work in informal waste management and work independently from formal waste management (Binion & Gutberlet, 2012:43). The formal and informal waste management sectors are described in-depth in the next sub-section.

1.1.2 Defining the formal and informal waste sector

The formal waste management sector refers to municipalities, recycling facilities, buy-back centres (BBCs), private drop-off centres, and individuals who operates registered businesses with official business licences, an organized labour force governed by labour laws, some level of capital investment and better technology and infrastructure (Aparcana, 2017:593; Barnes *et al.*, 2021:4; Komane, 2014:3). The formal waste management sector entails activities that involves

the collection, transportation, processing, disposal and monitoring of waste materials, which follow the waste management hierarchy, which is the internationally accepted guide for waste management practices (Rasmeni & Madyira, 2019:1027).

In contrast, the informal waste management sector is characterized by small scale, labour-intensive, unregistered, unregulated, and low-technology involving the collection of recyclable waste and trading the waste material for money to earn a living (Komane, 2014:3; Wilson *et al.*, 2006:797). The informal waste sector covers a diverse range of activities which includes: household waste picking, itinerant waste buying, street picking using trolleys, and landfill site reclaiming (Linzner & Lange, 2013:70). Individuals who partake in the activities of the informal sector are referred to as informal waste workers.

Informal waste workers are known by many names in different countries or regions but are commonly referred to as waste pickers, reclaimers, “bakkie” waste pickers, trolley pushers, scavengers, salvagers and recyclers, whose activities are neither organized, sponsored, financed, taxed, managed, recognized, nor reported on by the formal waste management sector (Coletto & Bisschop, 2016:284; Komane, 2014:3; Samson, 2009:2; Schoeman, 2018). There are also some local terms used by waste pickers themselves in South Africa such as “zula-zula” in the isiZulu language, which means roaming around which is commonly used in Pretoria (Makina, 2020:4). In Cape Town, they are referred to as “dumpster divers”, “freegans” and “skarrelers” (Perez, 2019:149; Schenck & Blaauw, 2011:413). Some of these terms such as ‘scavengers’ are perceived as derogatory and have been rejected by many who are involved in the activities of reclaiming waste (Samson, 2009:2). In this dissertation, informal waste workers are referred to as waste pickers. The term is commonly used in South Africa and is adopted by the Department of Forestry, Fisheries and Environment (DFFE), and by the South Africa Waste Picker’s Association (SAWPA). DEFF (2020) define waste pickers as people who salvage recyclable and reusable materials from waste bins, open spaces and landfill sites and re-value them to generate income.

The informal waste workers contribute significantly to the recycling rate in most low and middle-income countries. The section below provides an overview of the role of waste pickers in the informal economy of South Africa.

1.1.3 The role of waste picking in the informal economy in South Africa

With declining opportunities in the formal economy, the informal economy has become a major employer (Blaauw, 2019:130). According to Stats SA (2021) since the year 2010 the number of people living in poverty has risen, with the unemployment rate at 32.6% during the first quarter of the year 2021. This is as the result of high population growth, the impact of lockdown to the economy due to the COVID-19 pandemic that has led to more people losing employment, and an increase in international immigrants who move to South Africa to seek employment increasing the competition for poorly paid service jobs (Blaauw, 2019:130; UNDP, 2020:10).

In South Africa, as many as 90 000 people rely on waste picking to earn a living (Schenk *et al.*, 2019:81). Waste pickers are responsible for salvaging 80% to 90% of post-consumer paper and packaging extracted from the waste streams (Godfrey *et al.*, 2016:1), extending the lifespan of landfill sites, and saving municipalities between R300 million and R750 million a year in landfill air space (Godfrey *et al.*, 2016:1). The work of waste pickers saves municipalities' costs associated with collection, sorting, cleaning and transportation of waste (Samson, 2020a:2). Waste is readily available for waste pickers to salvage as a result of poor waste management in South Africa (Sekhwela, 2017:2). According to Godfrey and Oelofse (2017:5) South Africa's recycling rates have improved and has put the country on par with many European countries. The improvements in recycling rates are mainly due to the informal waste pickers, who in the absence of formal programmes of collecting recyclables, realized the value in the waste that would have been buried, instead of putting it to good use (DEFF, 2020:3). The informal sector plays an integral role in waste management, particularly in achieving the goal related to recycling and Extended Producer Responsibility (EPR) (DEFF, 2020:3).

Waste pickers and their activities not only benefits the waste and recycling sector, but they also contribute positively towards other environmental aspects and human health. When waste pickers divert waste from landfills, they reduce the need to allocate land space reserved for landfill use and avoid environmental externalities related to landfilling (DEFF & DSI, 2020:21). By collecting waste from public spaces, waste pickers contribute to cleanliness and help beautify the area they work in. During trolley pushing, waste pickers create recycling awareness to communities. Recycling is one of the cheapest and quickest ways to reduce greenhouse gas emissions. Recycling reduces emissions 25 times more than incineration does, incinerators emit more Carbon Dioxide (CO₂) per unit of electricity during the production of electricity (WIEGO, 2021).

Despite all their contributions to the waste management sector, waste pickers in most countries around the globe, including South Africa, are still extremely discriminated against and stigmatized (Perez, 2019:150). Their role is often misunderstood, regarded as a nuisance, and overlooked by

local government and citizens (Schoeman, 2018:360; Sekhwela, 2017:1; Perez, 2019:150). According to DEFF and DSI (2020:24), waste pickers are not seen as part of the modern waste management and recycling system since they receive little or no support from the formal sector. However, WIEGO (2021) emphasizes that, these informal workers provide a valuable service to municipalities, and they should be recognized and compensated for the work they do.

Considering the above, the next section will highlight the problem that motivated this research on the challenges of understanding and interpreting waste picker integration in the formal waste management sector.

1.2 Problem statement and rationale for the study

In recent years, the waste management and recycling sector have started discussions around transforming the role of waste pickers in the sector. Since then, the concept of 'integration' has been on the agenda in the formal waste sector (Sekhwela & Samson, 2020:22). Waste picker integration in the formal waste management sector has been identified as a priority in South Africa (Godfrey *et al.*, 2016:2; Sekhwela, 2017:1), and several municipalities in South Africa have started to integrate waste pickers in their waste management systems (Schoeman, 2018:360; Sekhwela, 2017:2). However, the integration process itself remains a challenge, as the term 'integration' is not clearly defined (Berger & Luckmann, 1966).

Waste picker integration is promoted by various organizations such as waste picker organizations and the World Bank, however, there is no commonly agreed understanding of waste picker integration (Samson, 2020a:3). According to da Silva (2019:80), the integration of the informal sector into the formal sector is required to improve each country's waste management, and this may be achieved through legislative means. The 2011 National Waste Management Strategy (NWMS) commits the South African government to guide how municipalities may assist to improve the working conditions of waste pickers (DEA, 2011). Subsequently, the Department of Environment, Fisheries and Forestry (DEFF) published the Waste Picker Integration Guideline for South Africa in the year 2020, to recognize the waste picker's role in extracting recyclables (DEFF, 2020). The waste picker integration Guideline is intended to assist role players to successfully integrate waste pickers in the formal waste sector. However, the term 'integration' according to Berger and Luckmann (1966) is a socially constructed concept that is not defined in policy. Wieviorka (2014:633) also argues that, in political and social life, integration is far from being able to account for realities or implement public policies successfully. From a sociological point of view, integration is connected with approaches that are centred on society or social system, rather than

with approaches that deal with subjectivity of individuals and their capacity for personal or collective action (Wieviorka, 2014:633). The confusing meaning of integration has led to differing perspectives among different role players of what integration means, who is to be prioritized in the integration, and how this integration is to be undertaken (Sekhwela & Samson, 2020:22), which may impose negative effects on successfully integrating waste pickers into the formal waste sector (Sakhwela, 2017:3). For this reason, this research study will investigate the perspectives of different role players on the integration of waste pickers in the formal waste management sector.

1.3 Research aim and objectives

This study aims to investigate the perspectives of different role players on the integration of waste pickers in the formal waste management sector. To reach this aim, the following research objectives are set:

- To investigate the different views of role players on the integration of waste pickers in the formal waste sector;
- To determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector.

1.4 Significance of the research study

This study will contribute towards understanding waste picker integration and how different perspectives shape the success or failure of the integration process of waste pickers in the formal waste management sector. It will further provide insights on possible effective approaches which may be developed based on varied understandings.

The success of waste picker integration is dependent on the role players in the formal waste management sector (Sekhwela & Samson, 2020:22; Rendon *et al.*, 2021:489). There is evidence in the literature which shows that, more focus has been placed on the importance of integrating waste pickers into the formal sector, their needs, and their role in waste management (Dias, 2016:2; Sekhwela, 2017:1; Simatele, 2017:129; Samson, 2020c:60). Not much emphasis has been placed on how the integration should be done, what it means and how it is received by the key role players (DEFF, 2020:2). The literature review presented as Chapter Two in this dissertation documents international experiences and approaches of waste picker integration that are implemented at different countries around the globe. All countries varied in their

implementation approaches, which highlights that there are no standard guide that defines the term waste picker integration, nor how the integration is to be undertaken.

The views of the formal sector, particularly those from the municipalities, where solid waste management service is rendered, are crucial as they inform policies and programmes that addresses the integration. The findings of this study will contribute towards the body of knowledge to address this gap in research.

1.5 Summary of the methodology

This section of the dissertation provides only a summary of the methodology that was employed in this research study. A detailed discussion on the methodology is provided later in Chapter Three. The research methodology followed in this dissertation entails a literature review in which a wide range of literature sources were consulted including, journals, published dissertations and thesis papers, books, online news articles and institutional websites. The literature review was conducted to situate the topic of this dissertation in relation to existing knowledge on perspectives of role players within the formal waste sector on the integration of waste pickers into the formal waste management sector. This study followed a qualitative research approach, given that the data to be collected in this research could not be measured (Hammarberg, 2016:499). According to Pathak *et al.* (2013:192) qualitative research approaches are used to understand people's experiences, beliefs, behaviour, attitudes, and interactions.

Data was collected through interviews using a semi-structured questionnaire, which consisted of a total of 14 questions which were open-ended and close-ended questions, respectively. According to Bernard (2006) semi-structured questionnaires allows participants to provide elaborated answers and allows for follow-up questions. Purposive and snowball sampling were employed to identify the study group. The sample size was relatively small due to the nature of the data collection method being interviews, and the study population was limited to only role players in the formal waste management sector in the Gauteng province. Furthermore, since participation was voluntarily, only several participants that were interested in participating in this research study was included. Data was analysed using thematic analysis, responses were grouped and divided into themes. Permission was obtained from the relevant institutions prior to the collection of data. Informed consent was obtained from selected participants. Ethical clearance was obtained from the relevant institutions prior to the collection of data.

1.6 Scope of research

A qualitative research approach was followed to address the aim of this research. Municipalities (metropolitan and local), and buy-back centres (BBCs) in the Gauteng province were selected as a study area. The Gauteng province was selected since it is the economic hub of South Africa, and half of the recycling companies in South Africa are located in the province. Participants included in the research study were individuals who represented the institutions in the formal waste management sector (municipalities and BBCs), perspectives of waste pickers were not included in the research study. The perspectives of role players on the integration of waste pickers were sought through interviews using a list of questions including the questions about the participant's knowledge of the Waste Picker Integration Guideline of South Africa. Although similar studies may have been conducted in the past, the Waste Picker Integration Guideline of South Africa was published in the year 2020, and not much research has been done on the extent to which the guide has been implemented. The research study will unveil critical gaps in the formal waste management sector on the integration of waste pickers.

1.7 Structure and outline of the dissertation

This section of the dissertation presents a summary of the chapters that this dissertation comprises of. This dissertation consists of five (5) chapters and are as follow:

Chapter 1: Introduction

This chapter provides brief background information on waste management and the recycling economy, and on how waste picker integration has emerged in the global and local context. The definition of waste pickers and their related activities are also provided. The problem statement gives a background of waste picker integration in South Africa, and also highlights how the term integration is unclear, and provides an understanding of the problem under study, which explains the importance and need for this research. The aim and objectives are entailed in this chapter since they provide direction for this dissertation.

Chapter 2: Literature Review

This chapter reviews literature on waste picker integration globally, then cascade down to the extent of waste picking in South Africa. The conceptualization of the term integration is provided and different approaches to waste picker integration are critically analysed. The chapter also provides a background on how different municipalities approached the integration of waste

pickers. A legislative framework on waste management which supports the integration of waste pickers in South Africa is also discussed.

Chapter 3: Methodology

This chapter details the methodological approach that were employed in this dissertation. The techniques employed to address the aim and objectives of this study are presented. This chapter details how a representative sample was selected and how the results will be presented in the subsequent chapter. The ethical considerations are outlined in this chapter as they guide the process of obtaining crucial information for this study.

Chapter 4: Data analysis and Discussion

This chapter presents the findings of the study and discusses the results obtained during the collection of primary data, and secondary data obtained during the literature review. The data analysis was based on the responses obtained during the interviews.

Chapter 5: Conclusion and Recommendations

The research findings are summarized in this chapter, this chapter gives a discussion on indicating how the objectives were met and concludes by providing recommendations that may be implemented to close the identified gap in all the other chapters.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In Chapter One, the concepts of waste picking in the formal and informal waste sectors as well as waste picker integration were introduced and described, followed by the discussion of the problem under investigation. Chapter Two reviews international and local literature on waste picking and waste picker integration. This chapter aims to contribute to the second research objective of this dissertation, which aims to determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. First, this chapter provides an overview of waste picking and recycling in developed countries, including a discussion of the three main policies that governs waste pickers and their activities in developed countries. Then, follows a brief overview of waste management in developing countries. Secondly, in this chapter is a discussion of waste picking in a South African context, including social challenges of waste pickers particularly the stigma attached to their waste picking activities by the society. A particular focus is placed on how South Africa's waste management transitioned in the last three decades, including the discussion on the implementation of the waste management hierarchy, which forms the foundation of waste management legislation. This discussion of the waste management hierarchy indicates how management instruments such as the Extended Producer Responsibility schemes (EPR) emerged. Thirdly, the concept of waste picker integration will be defined and different approaches to waste picker integration will be discussed. Lastly, applicable legislation to waste management that support waste picker integration is discussed, and examples of initiatives towards integrating waste pickers employed by some municipalities in the study area will also be presented.

2.1.1 Overview of waste picking and recycling in developed countries

The world is faced with many challenges of solid waste management (Guya, 2019:17). In developing countries, a key role in combating these challenges has been played by the informal waste sector, particularly the waste pickers and a role that ease the burden on municipalities. A substantial amount of literature exists regarding waste pickers in developing countries as already demonstrated in Chapter One. However, the perception is that in developed countries, waste management systems including informal recycling carried out by waste pickers is very effective and is the standard to achieve by middle to low-income countries. However, the reality is that the informal waste management sector has not been adequately acknowledged in developed countries (Rendon *et al.*, 2021:483). Until recently (2004-2016) in the Europe Union (EU) the existence of waste pickers and their activities has been ignored and remains a very challenging

subject for the waste management sector and the government. For example, waste picking in Paris was legalized in the 1200s and only to be forbidden again in the 1960s (Scheinberg *et al.*, 2016:820). The presence of waste pickers in the EU differs according to the economic status of the countries. For instance, in the Western EU the number of waste pickers is on a decline due to the modernization of the waste management systems. However, in the Eastern EU countries, which are characterized by low-income and poor waste management systems, waste picker presence is significant (Porras Bulla *et al.*, 2021:1302).

In developed countries, similar to developing countries, waste pickers on one hand are seen as the cause of public health and safety problems, as well as environmental problems. On the other hand, they are perceived as very important resources for municipalities to meet their recycling targets (Scheinberg *et al.*, 2016:823). Policies aimed at waste pickers in developed countries are aimed at promoting the integration of waste pickers within the integrated waste management systems, as is the approach in developing countries. However, Porras Bulla *et al.* (2021:1307) argues that the strategy might not work for developed countries since waste picking activities are not considered as a long-term career, but are seen as a transitional means of survival.

In developed countries waste issues are seen as problems related to consumption rather than problems related to poverty, unemployment, and poor urban governance as is the case in developing countries (Gregson & Crang, 2015:158). Furthermore, in developed countries, there are three main groups of policies which aim to: (1) mitigate waste picker activities, these policies are based on penalties and bans; (2) eliminate the social exclusion of waste pickers and their activities, these policies are based on social exclusion mitigation; and (3) integrate waste pickers, these policies are based on modernising the waste management system (Porras Bulla *et al.*, 2021:1307). An example of a policy that is aimed at mitigating waste pickers and their activity is the declaration of ownership, where the municipality declares waste as municipality's property as a way to penalise waste pickers (Hurl, 2017:94). In the Capital Regional District of Victoria in Canada, the city declared that anything in waste containers is the ownership of the city (Gutberlet & de Olivier Jayme, 2010:3343). Similar policies were implemented in New York City in 2007 (Heidelberg & Surak, 2020:335). In Vancouver, the city council in 2006 imposed restrictions and fines for waste pickers if they were found removing waste materials from bins (Wittmer & Parizeau, 2016:95).

Social exclusion mitigation policies are focused more on the quality of life of waste pickers. These policies encourage initiatives that assist waste pickers to organise and insist on the inclusion (Porras Bulla *et al.*, 2021:1308). In Italy, in 2012, a network called "Rete Nazionale Operatori dell'Usato" demanded the government to develop and implement national waste reuse policies that take the informal waste sector into consideration (Porras Bulla *et al.*, 2021:1308). The

Barcelona city council has implemented a pilot programme to assist waste pickers to migrate into the formal waste economy by constituting a cooperative with the municipal financial assistance (Heidelberg & Surak, 2020:337). In Victoria, Canada, a local company produces and distributes trolleys specifically designed for waste pickers activities, with the aim to both improve their capacity to transport materials, and to improve their image as recyclers (Gutberlet *et al.*, 2009:736). Porras Bulla *et al.* (2021:1308) emphasise that migration laws are key in mitigating social exclusion so as to allow waste pickers to receive legal status in countries they operate in, since the majority of them are foreign nationals.

Finally, policies based on the modernising of waste management systems try to merge social and environmental aspects for informal recycling. The European circular economy package is an example of such policy (Porras Bulla *et al.*, 2021:1309). In 2015, the European Commission adopted the first circular economy action plan which included measures to assist in stimulating European transition towards a circular economy intended to boost global competitiveness, create a sustainable economy, and create new jobs. The action plan includes measures covering the entire life cycle of waste, including creating a good market for secondary raw materials and a revised waste proposed legislation (European Commission, 2021). For instance, in Romania, the TA-Roma project provided credit for waste pickers through their “fair waste practices” program in which, waste pickers are refunded for the recovered waste containers. However, Gregson and Crang (2015:162) argues that those EU environmental policies are plagued with many limitations since their intentions are to constitute sustainable circular economies only within the EU, overlooking the fact that waste is embedded in a transitional network. Furthermore, a majority of these environmental policies are aimed at changing the behaviour of citizens and make the waste systems more efficient rather than improving the livelihoods of the waste pickers.

2.1.2 Overview of waste picking and recycling in developing countries

In Chapter One, a brief background of waste picking and recycling by the informal waste sector around the globe has been discussed. Moving from the discussion of the developed countries context presented in the section above, this section focuses on an overview of waste management including waste picking and recycling in developing countries. A brief highlight on policies and governance by different countries will be provided. Then later in the next section is the discussion of waste picking and the transition of waste management in the South African context.

Waste pickers activities vary from country to country, they vary from street waste pickers who recover recyclable materials from mixed waste of kerbside on the street (Makina, 2020:3), municipal waste collection workers recover recyclable materials while transporting waste to the

landfill site, and finally waste pickers at the landfill site who also pick and sort waste after it has been dumped (Aparcana, 2017:596).

Developing countries are severely faced with problems of waste management as a result of an increase in the quantities of waste owing to urbanization and economic activities. These problems are exacerbated by lack of adequate financial, human, and technological resources for municipalities to invest in formal recycling and treatment processes resources (Masood & Barlow, 2013:93). A majority of developing countries continue to experience difficulties in waste collection and disposal, and they spend around three to fifteen percent (3%-15%) of the municipal operational budgets on waste management on collection (Wilson *et al.*, 2012:243).

Waste management in China for instance, is an issue that has only been addressed as a national policy priority recently (since in 2009), with the Circular Economy Promotion Law that presents serious advances (da Silva *et al.*, 2019:83). Prior to the publication of the Circular Economy Promotion Law, the Republic of China's Law on the Prevention and Control of Environmental Pollution Law was implemented in 1995, prohibiting all unregistered waste management activities. The law did not encourage waste picking as a form of recycling. However, the Circular Economy Promotion Law stipulates that the government shall encourage the establishment of a waste recovery system which included informal recycling (Khan *et al.*, 2022:5). Experts in China report that waste pickers play a crucial role in the recycling sector in the country, however, the government fails to cooperate with them or their trade to enhance effectiveness of the waste management system (Orlins & Guan, 2016:76). In Lima, Peru, local authorities prefer to cooperate with larger waste management companies and Non-Governmental Organizations (NGOs), instead of trading with the informal waste management sector (Aparcana, 2017:597).

African countries experience similar waste management as a result of population growth, urbanization, growth in middle class and changing consumption habits, and economic development (UNEP, 2018:6). Service delivery in most African countries is poor and ineffective. For instance, in many sub-Saharan cities, the waste management services provided by municipalities are not meeting the needs of the communities, and as a result, there is widespread dissatisfaction by residents and lack of confidence in the service rendered by municipalities (Fobil *et al.*, 2008:263). The failure of the solid waste management in the formal sector creates an enabling environment for the informal waste sector in Africa. According to Scheinberg and Savain (2015:82) Morocco is the only country that has a national policy which recognizes the informal waste management sector and grants them permission to collect recyclables. In Bamako, Mali, the informal waste management sector is responsible for 100% of the total recycling activities (Aparcana, 2017:595).

In developing countries, landfills are the most common method of final disposal, and it is anticipated that this practice will likely continue into the future (Kaza *et al.*, 2018:161). However, there has been an increase in improvements in recycling in the waste management sector (Schoeman, 2019:361). Dias (2016:382) states that, activities of waste pickers have made recycling rates in some developing countries competitive with those of developed urban systems, and for this reason, they can be classified as green economic workers. For instance, in South Africa, waste pickers were responsible for 82.2% of recycled post-consumer paper and packaging in 2014 (Godfrey *et al.*, 2017:800). In Pune, India, it was projected that the informal sector collected approximately 118,000 tonnes of material in 2006 alone, diverting 22% of recyclables away from landfills, saving the municipality US\$ 316,455 in municipal waste transportation expenditures (Chikarnane, 2012:3). Bigger municipalities in cities are looking for ways to avoid the development of sanitary landfills and are developing waste-to-energy incineration schemes instead (World Bank, 2018). However, the downside to this is the high costs associated with waste-to-energy, technical capabilities, appropriate business models, and high organic composition of waste which renders waste low in calorific value (Muthuraman, 2018:1).

With proper support and organizing, waste picking can create employment, reduce poverty, improve livelihoods, and reduce municipal costs of solid waste management, to which municipalities may divert funds into other municipal essential services such as health and social services (Kaza *et al.*, 2018:130).

2.1.3 Waste picking and the evolution of waste management in South Africa

This section will provide a brief overview of waste picking in South Africa, followed by a discussion of the stigma attached to waste pickers, then finally a discussion of how South Africa transitioned in waste management and recycling over the past three (3) decades towards the implementation of the waste management hierarchy.

In South Africa the prevalence of waste pickers is nearly impossible to determine, since most waste pickers are unregistered and unregulated (Motlhoki, 2017:17). They either are transient waste pickers, who waste pick or visit the landfill site for specific reasons at a particular time, or career waste pickers who work long periods of time and are known for their activities of waste picking to earn a steady income which they depend on for survival (Schenck *et al.*, 2012).

There are also middle-men or small informal waste traders, who typically buy the recyclable material from waste pickers and further sell the material to big recycling companies (Aparcana, 2017:597). In South Africa, these middlemen are referred to as Buy-Back Centres (BBCs). BBCs play a crucial role in facilitating the trade exchange of recyclables, where waste pickers can sell

their recyclables (Viljoen *et al.*, 2019:3). Figure 2-1 below illustrates a generic flow of recyclables through an informal waste recycling system common to many developing countries. Recycling in the informal waste sector involves waste collection by waste pickers at landfill sites, itinerant waste buyers and/or municipal waste workers, who will then sell the collected waste to local BBCs. The BBCs in turn will sell the waste material to larger BBCs or to formal recycling companies (Viljoen *et al.*, 2019:3). Therefore, BBCs serve as the linkage between the informal and formal waste sector. It is estimated that, in Cape Town alone, BBCs accept material from approximately 5500 waste collectors, of which 3000 are waste pickers, which amounts to 17 100 tonnes of recyclables on average per month, amounting to R25,7 million in material value (Barnes *et al.*, 2021). Thus, BBCs contribute to reducing the burden on the landfill sites.

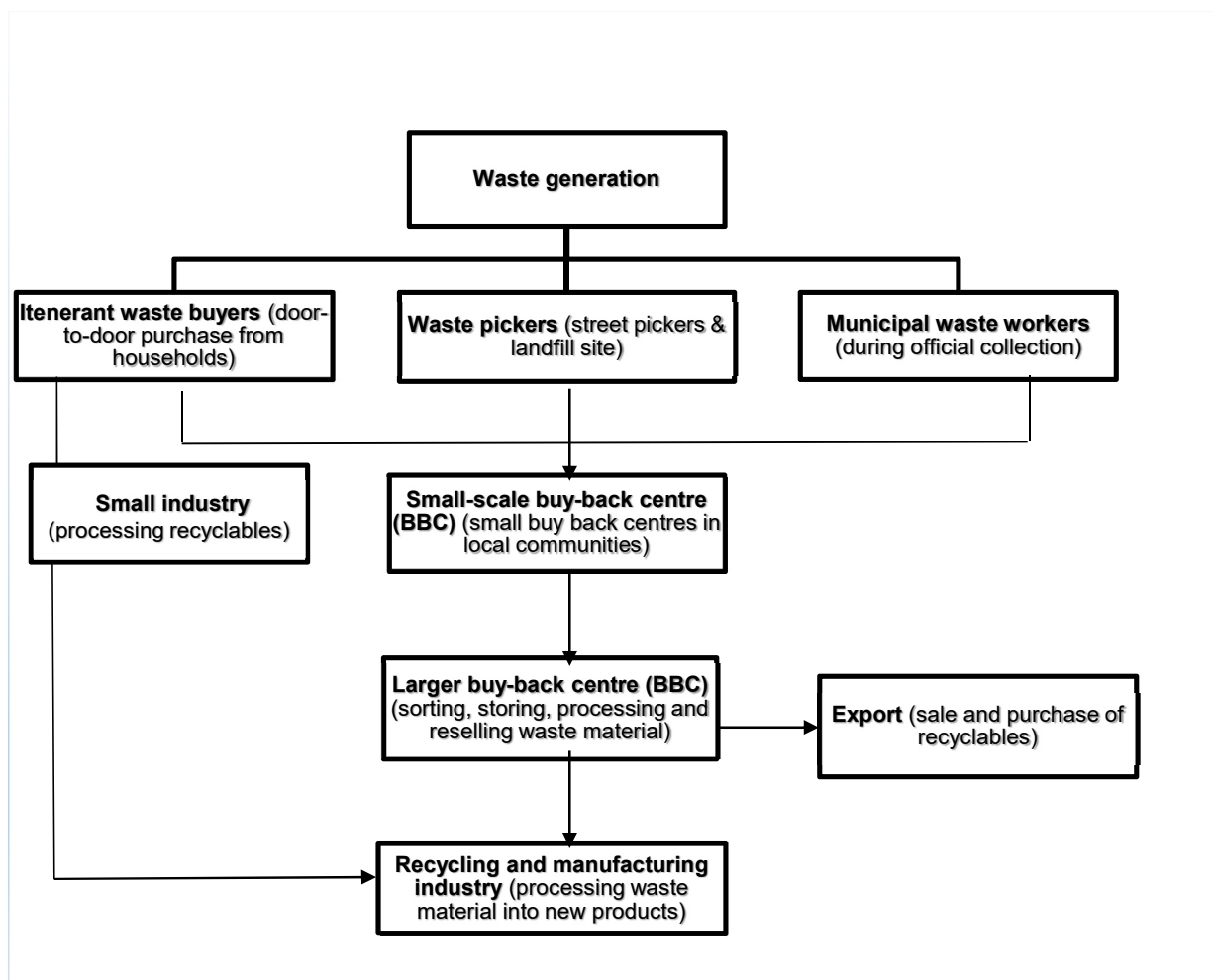


Figure 2-1: Generic flow of recyclables through an informal waste recycling system in most developing countries (Adapted from: Masood & Barlow, 2013:95).

According to Makina (2020:31) waste pickers are engaged in recycling not as environmental activists, driven by environmental sustainability, but as individuals who saw an opportunity to earn

a living out of waste. In South Africa waste pickers have been engaging in picking waste activities as early as 1986, since the adoption of neo-liberal policies which saw an increase in the scale of private waste picking (Schenck & Blaauw, 2011:414).

Godfrey and Oelofse (2017:2) describe four (4) stages through which South Africa has transitioned in waste management and recycling over the past three decades which paved way for the current dominance of waste pickers, in the context of legislation. The four stages include: (1) the age of landfilling; (2) the emergence of recycling; (3) the flood of regulation; and (4) the driver for EPR. The four stages are described as follows:

1. The Age of Landfilling

The first stage is referred to as the age of landfilling, which started in 1989, when South Africa has not yet emerged from the Apartheid era. Landfilling remains the dominant practice of dealing with waste in South Africa, with the country operating a large number of landfill sites decades ago, which most of them were unlicensed (Godfrey & Oelofse, 2017:2). A number of environmental and human health concerns associated with landfills have developed over the years, and this prompted the government to develop policies and regulations aimed at improving the way in which landfills were designed and operated (UNEP, 2015). According to the DFFE, between the years 2007 and 2009 out of 581 landfill sites, 431 were unlicensed (DEA, 2016:6). However, according to Creamer Media's Engineering News (2018), it is illegal to allow an unlicensed landfill to operate, but many municipalities do not take necessary measures to manage landfills and get them to be licensed, this is as a result of costs and complexities associated with compliance. The second stage is the emergence of recycling which started in the year 2001, this was when the recycling economy emerged in South Africa and will be discussed next.

2. The Emergence of Recycling

Recycling became popular in South Africa in the year 2001 after the publication of the Polokwane Declaration, in which targets were set to reduce waste to landfill of 50% by the year 2012 and zero waste to landfill by the year 2022. Taiwo *et al.* (2008) argued that these targets were far too ambitious, as by the year 2007, there was not much progress being made. Godfrey and Oelofse (2017:2) also allude to the issue stating that, the country has only been able to divert 10% of the waste generated away from the landfill towards recycling. They then concluded that, recycling has not yet matured in South Africa and that, more should be done. However, the good thing that came with the Polokwane Declaration was the banning of single-use plastic bags, by introducing the plastic bag levy initiative. The agreement came into effect in the year 2003 with the standardization of the following plastic bag sizes; eight (8) litres, twelve (12) litres and twenty four

(24) litres (National Treasury, 2006:48). Plastic bag consumption dropped significantly from 90% to 70% after the levy was introduced (Muzenda, 2014:108). The third stage is the flood of regulations, in which the National Environmental Management Waste Act of 2008 (NEMWA) was developed to reform the law regulating waste management in order to provide for cooperative environmental governance and will be discussed below.

3. The Flood of Regulation

This period started in the year 2008 with the promulgation of the National Environmental Management Waste Act of 2008 (NEMWA). NEMWA provided the command and control tool to regulate all aspects of waste and secondary resource value chain in South Africa (NEMWA, 2008). This Act and other legislative tools are discussed in the next section of this dissertation. Since then, there was an abundance of legislation set to control the sector, with the aim to minimize the environmental and human impacts related to poor waste management, while simultaneously striving to move waste up the waste hierarchy as illustrated in Figure 2-2 below, to achieve the reuse, recycling, and recovery of waste. The waste management hierarchy was introduced in South Africa through the White Paper on Integrated Pollution and Waste Management (DEA, 2010). In the year 1999, the first NWMS was developed, to address waste management issues in the country and to give effect to the White Paper on Integrated Pollution and Waste Management, with the overall objective to reduce the generation of waste. In the year 2011, the NWMS was amended, which also saw the amendment of the waste management hierarchy (Muzenda, 2014:107). The principle of the amended waste hierarchy is group waste management measure across the whole value chain in the series of steps according to their order of priority in descending order. The waste management hierarchy provides a holistic and systematic view to waste management during the waste cycle so as to achieve waste avoidance and reduction, reuse, recycle, recovery, and treatment and disposal as the last option as illustrated in Figure 2-2 (DEA, 2011:6).

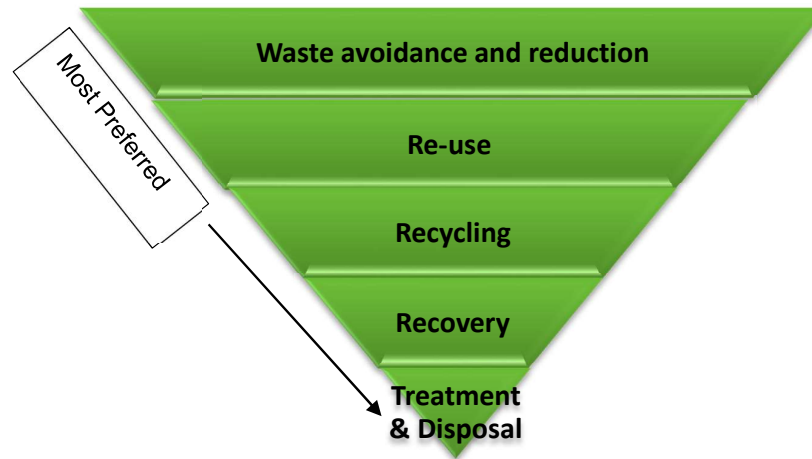


Figure 2-2: Waste Management Hierarchy (NWMS, 2011).

The first preferred measure in the waste management hierarchy is *waste avoidance and reduction*. In this step, material and products must be designed in a way that, reduces the natural materials used, their waste components, and the waste generated during production and after consumption. Where waste cannot be avoided, then it should be *re-used, recycled, and recovered*. Re-use allows a product to be used for similar or different purposes without changing their properties. Recycling involves the separation of material from the waste stream and processing them as raw materials. Recovery involves reclaiming the waste material for recycling or use the material as fuel (DEA, 2011:18). The first four steps of the waste management hierarchy are embedded on the cradle-to-cradle waste management approach. The cradle-to-cradle approach ensure that when the product reaches the end of its lifespan, its components are recovered, re-used or recycled, becoming raw material for new products, then the cycle repeats until the possible portion of the original product is finally disposed of. Then the last step of the waste management hierarchy is *treatment and disposal*, this is the last resort. Treatment involves the alteration of the physical properties of waste, and disposal refers the actual burial of waste material on land in a landfill site (DEA, 2011:18). In terms of treatment of waste, DEA supports the development of alternatives to landfilling such as gasification, incineration, and pyrolysis of waste material. It is anticipated that incineration, gasification, and pyrolysis facilities will increase over time, and will eventually replace landfilling as the main method of final disposal (Muzenda, 2014:108). However, Godfrey and Oelofse (2017:7) argues that this abundance in waste legislation has resulted in a situation where implementing the waste hierarchy has become extremely difficult, and requires extensive legislative requirements, which further saw businesses raising concerns that legislation has become a major constraint to the growth of the recycling economy in South Africa (Western Cape Government, 2014).

Legislation for waste management in South Africa is informed and influenced by the key fundamentals of the waste management hierarchy (DEA, 2012:279). After the publication of the NEMWA, government and the waste industry were mandated to implement and achieve the objectives of the waste management hierarchy. A number of instruments in NEMWA enforced the duty of care which includes Integrated Waste Management Plans (IWMPs), waste management plans, norms, and standards, and EPR (DEA, 2011:21). The IWMP ensures that municipalities are consistent with implementing the waste management hierarchy that encourages a new paradigm shift (DEA, 2012:299). The EPR schemes is the final period of the transition of waste management in South Africa and is provided for under Section 18 of NEMWA for waste products from select industrial sectors, namely, paper and packaging, lighting, electrical and electronic equipment, and some single-use products. This final period is discussed next.

4. The Driver for Extended Producer Responsibility (EPR)

This period started in the year 2012, which was the time when the Integrated Industry Waste Tyre Management Plan (IIWTMP) was published under Section 28 of the NEMWA. EPR is an advanced policy instrument aimed at shifting the responsibility of managing certain waste streams from the government, mainly municipalities, to producers (Godfrey, 2016:1). Through EPR, the recyclability, better material choices, re-usability and biodegradability all put pressure on the producer, which will ultimately increase the responsibility of production. EPR is used as a governing tool for NEMWA. For instance, the IIWTMP was aimed at fulfilling tyre producers' responsibilities for end-of-life waste tyres through a mandatory EPR scheme (Godfrey & Oelofse, 2017:7). However, the plan did not include key issues such as cost projections and the implementation strategy (Sebola *et al.*, 2018:952). The government received many concerns from industry about the EPR scheme, stating that, measures in the EPR were based on raising money for the national fiscus, rather than, driving and providing incentives towards a secondary resource economy in South Africa (Godfrey & Oelofse, 2017:7). Furthermore, since in the year 2014, the government has been in discussions, calling for EPR schemes for paper and packaging, waste electrical and electronic equipment (WEEE) and lighting. The EPR Regulations were finally published in the year 2020, and was implemented in the year 2021 (DEFF, 2020). It is crucial that industry implement such obligatory approaches to enforce the first two levels of the waste management hierarchy.

If EPR is not appropriately designed and implemented with waste pickers included, this may have the potential negative impact on the livelihoods of waste pickers by creating competition between the formal and informal sectors in the collection and sorting of recyclable waste materials (Godfrey, 2016:1).

However, waste pickers suffered hostility from citizens and at times from authorities. They generally suffer social stigma as a result of the activities they are engaged in (Aparcana, 2017:596). The section that follows below briefly describe the theory behind stigma and how some traits that waste pickers possess subjects them to be social discriminated against. The perception of citizens and authorities on waste pickers and their activities vary depending on the country or region (Aparcana, 2017:597). As discussed earlier, developing countries are now finding strategies to prioritize the inclusion of the informal recycling activities in their waste management systems. National legislation and policies on informal recycling activities in different countries have the potential to prevent the further discrimination that the society have against those who chose to make a living out of waste. As such, South Africa is one of the countries that are changing their legal frameworks to formally recognize waste pickers in their formal waste management sector.

2.1.4 Waste picking and stigmatization

Waste pickers around the globe have been subjected to stigma for decades (Schoeman, 2019:370). Goffman's theory of social interaction dating back to the year 1963 describe stigma as "an attribute that is deeply discrediting and that reduces the bearer from a whole and usual person to a tainted, discounted one" (Goffman, 2009:3). Goffman's theory is centred on the idea that as people interact with one another in social settings, they are constantly engaged in a process of impression management, wherein each person will try to present themselves and behave in a manner that will not embarrass them and others (Yang *et al.*, 2007:1525).

In the 1980s, Jones *et al.* (1984) in their observations concluded that, stigma can be seen as a relationship between an attribute and a stereotype, in which a person is linked to an undesirable characteristic. Link and Phelan (2001:365) in their article on stigma added a component of discrimination to the definition of stigma.

Stigmatization is socially constructed, and is based on social processes and social aspects (Yang *et al.*, 2007:1525). Peres (2016:41) explains that individual performance can often give a good impression of the larger group of people to which an individual belong. In relation to waste pickers for example, an individual waste picker might take himself as a non-violent person by avoiding violent behaviour, while other waste pickers may be involved in violent behaviour elsewhere, such behaviour have the potential to cast social doubt for the entire team and therefore discredit the whole team as potentially violent, this phenomenon is defined as stigma by association (Peres, 2016:41). Crocker *et al.* (1998:505) further cites that stigma is not found totally within the

stigmatized individual but happens within a social context that characterizes an attribute as devaluing.

Waste pickers and their activity are connected with homeless stereotypes, which means people who go around searching for food in bins and dumps. Homeless people are presented negatively as models to be avoided since their roles and traits emerge from their place of ancient narratives that they are the descendants of witches, tramps, drunks, old hags, madmen, and criminals (Peres, 2016:92). Waste pickers are also stigmatized because of their physical appearance, their physical attributes include loss of teeth, hair type, tattoos, facial features, scarring and clothing. Peres (2016:92) studied that physical appearance of waste pickers communicates a bad first impression and allow varied assumptions about them and their identity. Waste pickers are devalued because of the work they do and how they look, the stigma is not necessarily attached to them as people.

As a result of being stigmatized, waste pickers are often perceived as either victims or perpetrators. As victims, they are perceived as people who should be subjected to social stigma, and often belong to socially vulnerable groups, such as the unemployed, women, children, the elderly, the disabled, and immigrants (Coletto & Bisschop, 2017:284). Although waste pickers, particularly those in the landfill, have been incorporated into municipalities' waste management systems in some way, unfortunately for the most part, they are still regarded as nuisance by authorities and are prone to violence by police (WIEGO, 2013; Perez, 2017:150). An example of such treatment was observed at Pietermaritzburg in South Africa, when the government authorized the use of pallet guns by security staff to shoot at anyone attempting to waste pick at the landfill (Perez, 2017:150).

Waste pickers are also seen as offenders, especially by local authorities and private companies in waste management who often have negative attitudes towards waste pickers, and often would neglect or repress them (Aparcana, 2017:597; Coletto & Bisschop, 2017:284). They are considered not compatible with the increasingly modernized image of the City (Coletto & Bisschop, 2017:284). In Cape Town, South Africa, the municipality has made it illegal for unauthorized persons to access the landfill sites, which regards waste pickers as trespassers and risk them from being criminalized. Perez (2019:150) reported that, the City of Cape Town treats waste pickers as a source of shame who tarnish the City's image of a "world class City" and are then removed from sight ahead of high-profile events. In Johannesburg, waste pickers expressed that, the Johannesburg Metropolitan Police Department (JMPD) officials often confiscate their collected waste and burn it, and even the South African Police Services (SAPS) officials would stop and search them (Schoeman, 2019:370).

Furthermore, despite the fact that, waste pickers are recognized as important in the management of waste in most cities in the developing countries, their activities are mostly labour-intensive, low-technology, low-paid and autonomously managed (Coletto & Bisschop, 2017:284). Through waste picker integration, waste pickers will be valued and rewarded for their important work and contributions in diverting waste away from the landfill sites towards reuse and recycling (DEFF & DSI, 2020:94).

2.2 Conceptualization of integration

The term 'integration' is used in different forms especially in policies. It can be interpreted differently by different institutions in different sectors. For example, integration can be applied in integrating practices and policies to have one system, for better and effective management. Wilson *et al.* (2013:54) describes integration as "a combined or made up of parts that work well together", or combining separate things, bringing together processes that are normally separate. Integration can also refer to a system that is open to everybody inclusive of any race, ethnicity, religion, gender, and social class (Wilson *et al.*, 2013:54; Guya, 2019:20).

This section of the literature review conceptualizes the term integration by discussing the different definitions of waste picker integration according to different scholars around the world. Also in this section, is the discussion of the two (2) main key understandings of the integration process which are the "traditional development process" and the "transformative process". The categorization of different approaches under the traditional and transformative processes as presented by different scholars towards the integration of waste pickers in the formal waste management sector is also explored.

2.2.1 Defining waste picker integration

After decades of stigmatization and brutalization of waste pickers, governments around the developing countries have started to implement programmes to include waste pickers into municipal waste management systems (Godfrey *et al.*, 2016:2; Sekhwela, 2017:1; Samson, 2020c:60). Although this may be the case, Samson (2020c:60) argues that there is lack of academic debate on this global trend. The greater part of academic research focuses on identifying waste picker integration programmes, and policy developments, however, not much focus has been placed on understanding what it means to integrate waste pickers in the formal waste management sector. Dias (2016:376) also alluded to the fact that, there is still no consolidated methods, terms and conceptual framework on the subject which will reflect multiple

aspects of waste picking. Waste picker integration does not yet have a widely agreed definition. Only a few authors attempted to provide a clear definition of waste picker integration, however this adds to the confusion and complexities of the term and its process. For instance, Sekhwela and Samson (2019:25) in their study interpreted integration as the integration of individual waste pickers and their cooperatives into municipal solid waste management systems. Waste picker integration is also thought to be similar to formalizing their work into an employment relation, which means improving waste pickers existing forms of work (Kashyap & Visvanathan, 2014:48). Samson and Sekhwela (2019:26) describe the term integration as the inclusion of waste pickers into the municipality's waste management system, and includes the support of waste pickers financially, and with resources. Chikarmane and Narayan (2009:1) argues that integration should also include the contracting of waste pickers as service providers. Meanwhile, according to the DEFF and DSI (2020:x), waste picker integration is *"the creation of a formally planned recycling system that values and improves the present role of waste pickers, builds on the strengths of their existing system for collecting and revaluing materials, and includes waste pickers as key partners in its design, implementation, evaluation and revision"*. For the purposes of this study, the definition of waste picker integration is the formal inclusion of waste pickers in the formal waste management systems which will see waste pickers as key role players in recycling in the formal waste management sector. Blaauw *et al.* (2015:18) emphasizes that, improving and guaranteeing access to recyclables should be considered fundamental to waste picker integration.

The next sections below discuss different approaches that are described by different scholars around the globe, as approaches towards achieving waste picker integration in the formal waste management sector.

2.3 Approaches to waste picker integration

Approaches to waste picker integration differs according to objectives (Sekhwela, 2017:16), and it is said to always be content specific (DEFF & DSI, 2020:28). DEFF and DSI (2020) suggests that key role players should start the integration process at different points and should develop an approach appropriate for the relevant context. In the South African context, the waste picker integration Guideline suggests the seven (7) steps of waste picker integration as illustrated Figure 2-3 below, that can be followed as a participatory process to design and implement waste picker integration programmes and plans. These steps are discussed later in this chapter.

2.3.1 Waste picker integration as a traditional development process

The “traditional development” approaches to integration refers to the charitable activities conducted by municipalities and industries that are mainly aimed at helping waste pickers, without necessarily recognizing them (Samson, 2020c:65). In their study, Velis *et al.* (2012:60), observed that the traditional approaches have been criticized for not recognizing waste pickers as important stakeholders and in the decision-making about their integration without consulting waste pickers themselves. Waste pickers were not necessarily asked what they wanted and were not considered as legitimate stakeholders (Velis *et al.*, 2012:60). Next is a discussion of waste picker integration as charity, which is an example of a traditional development process.

2.3.1.1 Waste picker integration as charity

As mentioned above, waste picker integration approach as charity is a form of the traditional development approach. In this approach waste picker integration is considered to be a charitable activity conducted by municipalities or industries to assist waste pickers in their marginal and survivalist work (Guya, 2019:22). These activities include the provision of training, equipment, and space (Samson, 2020b:197). This approach tends to focus on helping waste pickers on the ground, but lack financial and social assets, and often they do not alleviate poverty (Velis *et al.*, 2012:60). Samson (2020b:197) discusses the four key aspects of the charity approach as: (1) the integration process mainly focuses on the daily physical work of extracting, sorting, cleaning, and selling materials; (2) waste pickers are assisted with support to conduct their work through integration programmes; (3) integration programmes focus on waste pickers labour, instead of integration of their recycling system; and (4) waste pickers are treated as passive targets of local government programmes. Various scholars argue that waste pickers often do not want to be integrated in the way envisioned by government and industries, this often leads to project failure and leaving waste pickers at a disadvantaged position (Pholoto, 2018:14; Sekhwela, 2017:14). This approach has been criticized for focusing exclusively on fixing specific problems that waste pickers are facing such as working conditions, rather than dealing with the issue in the broader context of seeing waste pickers as poor people struggling to earn sustainable livelihoods.

2.3.2 Waste picker integration as a transformative process

Waste picker integration is also seen as a form of a transformative process, which focuses on transforming the lives of waste pickers (Chikarmane, 2012:5; DSI, 2020:28). DEFF and DSI (2020:28) describe the transformation process as a multi-staged and multi-dimensional process which cannot be achieved overnight. In this integration process a focus is placed on interventions that shape and affect the work that waste pickers do. These interventions include economic,

political and the social interventions (Guya, 2019:22). In this section, waste picker integration as social inclusion and waste picker integration based on cooperatives and partnership are discussed as these approaches are transformative in their nature.

2.3.2.1 Waste picker integration as a social inclusion

The social perspectives to waste picker integration bring some form of inclusion in the waste economy which will improve the working conditions of waste pickers. These include recognition, protection, empowerment, personal growth, and job security for waste pickers in the waste sector (Sekhwela, 2017:13). Samson (2020b:197) conceptualizes the integration as social transformation, highlighting that waste picker integration is conceptualized as part of a larger political project and struggles for social justice and transformation. In social transformation, waste pickers transform their understanding of the world and their place within it, therefore, integration becomes one way of changing the current oppressions and exclusions (Samson, 2020b:199). Social inclusion also provides support to waste pickers to organize and form Small-Medium-Micro-Enterprises (SMMEs) and Community-Based Organizations (CBO) (Sekhwela, 2017:13).

Social inclusion of waste pickers would be the most appropriate approach within the South African context, considering the country's policies that are more focused on supporting and promoting economic progress. This approach does not only encourage ordinary citizens and governments to shift their perspective about waste pickers and see waste pickers as crucial role players in waste management, but this approach also encourages waste pickers to view themselves as important contributors to the waste management system.

2.3.2.2 Waste picker integration based on organizing into cooperatives

Collective organizing is predicated on building unity among waste pickers (Samson, 2019:35). Through NGOs initiatives waste pickers are able to organize and form cooperatives (Aparcana, 2017:597). The International Labour Organization (ILO) and International Cooperative Alliance (ICA) defines cooperatives as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise" (ILO, 2019:2). Waste pickers may formalize their activities by forming SMMEs and provide waste services to their communities. This approach involves including ordinary citizens as beneficiaries with municipalities responsible for contracting SMMEs. SMMEs are funded by the income generated by municipalities for waste collection fees (Aparcana, 2017:598). Assisting waste pickers to form SMMEs requires a controlled, legalized, and regulated framework (Sekhwela, 2017:14).

According to Aparcana (2017:598), municipalities play a minor role in supporting CBOs by providing support through developing legislation, infrastructure, and awareness-raising activities. CBO's may be responsible for waste collection, sorting, recycling, composting, and cleaning of public areas. Cooperatives are recognized as a means of integrating waste pickers in large numbers into the formal waste management system (Godfrey *et al.*, 2017:799). Municipalities and cooperatives establish cooperation agreements for collection services and recycling (Aparcana, 2017:597). This approach has successfully been implemented in countries such as Brazil and India, with successful cooperatives such as ASMARE in Brazil (Dias, 2011:2) and "Kagad Kach Patra Kashtakari Panchayat" (KKPKP) in India (Chikarmane, 2012:2).

However, in South Africa, Godfrey *et al.* (2017:799) reported that, cooperatives were at a 91.8% failure rate, and many cooperatives returned back to the informal sector. da Silva *et al.* (2019:87) also alluded to this fact stating that in 2008, 85 new management cooperatives registered and only eight percent (8%) were active one year later in South Africa. According to Godfrey *et al.* (2017:799), many cooperatives are reported to be opportunistic in their registration, targeting mainly short cooperatives grants and responding to procurement policies that supports cooperative grants, instead of aiming for long-term sustainability. A number of cooperatives in South Africa are operating within a (Pty) Ltd business model, with a minimum number of five (5) members all acting as management and employing other people to do the work (Godfrey, 2017:805). This opportunistic behaviour goes against the definition of a cooperative, which means "jointly owned and democratically-controlled enterprise" (ILO, 2019:2) which should benefit all members. Furthermore, cooperatives face numerous challenges including limited access to recyclables, lack of infrastructure, and weak capabilities (Godfrey *et al.*, 2016:3). Organizing waste pickers into cooperative is also faced with social divisions and power relations between local and foreign national waste pickers (Samson, 2019:35). For instance, in Soweto, Samson (2019:35) revealed that, there has been a battle between South African and Zimbabwean waste pickers over controlling access to the landfill site, where South African waste pickers instructed security guards to deny access to non-South African waste pickers who were mainly Zimbabwean nationals, without identification cards issued by the South African controlled reclaimer committee.

According to ILO (2019:4) the failure of cooperatives can also be attributed to a lack of strategic planning, and blurred division of labour exacerbated lack of regular meetings and written records. Other challenges are attributed to limited support from the government and absence of legal identity for waste pickers.

2.3.2.3 Waste picker integration based on partnership

Waste pickers may be integrated through forming partnerships. Partnerships refers to a relationship between stakeholders where service provision of public goods is concerned, and all partners benefit equally (Guya, 2019:25). The partnerships in terms of waste picker integration may include the state, civil society, and private sector. One typical example of such partnership is a public-private partnership (PPP). Baud and Post (2003:60) emphasize that partnerships lead to greater effectiveness and sustainable development since they involve a variety of stakeholders. However, their success is determined by government's capacity, and this may lead to contradicting results in how the partnership functions. Furthermore, PPPs encourage strong contractual agreements between stakeholders to ensure equality, low costs, prevents political interference, and minimize corruption (Guya, 2019:24). The next section will provide international examples of different approaches implemented by different countries to integrate waste pickers and their activities within their formal waste management systems.

2.4 International best practice case studies of waste picker integration

Internationally, most developing countries have a dominant presence of informal waste activities in their economies (da Silva *et al.*, 2019:80). The dominance of informal waste activities is attributed by the problems in the waste management systems particularly in the developing countries, such as lack of financial resources, poor infrastructure, inadequate planning, and allocation of responsibilities among role players in the sector (da Silva *et al.*, 2019:80). In this section below are examples of case studies of international best practice of the waste picker integration approaches implemented by different countries. The discussion in this section only includes developing countries mainly from the South-East Asian region which has rich history of waste picker integration. Developed countries have not yet taken serious steps towards integrating the informal sector in their waste management systems as discussed in section 2.1.1, since the activities of waste picking are done by a few marginalised individuals who are often not even legal citizens in those countries. The countries discussed below are countries that have made great efforts to develop policies that aimed at including waste pickers and their activities, and have made significant progress.

2.4.1 Waste picker integration in Brazil

In Brazil, waste pickers are categorized into two groups which are, autonomous workers and organized recyclers sometimes referred to as *catadores* (collectors and recyclers) who are members of various waste pickers cooperatives and associations (Dias, 2011:8). Gutberlet

(2021:2) emphasizes that, cooperatives provide social safety nets that help waste pickers to better absorb shocks and to create opportunities to their livelihoods. The ASMARE association of *catadores* was established back in 1990 in Belo Horizonte, Brazil, as a result of an NGO called *Pastoral de Rua* whose mission was to help street dwellers (Samson, 2009:52; Dias, 2011:2). The NGO and ASMARE collaboratively developed a best model of a mixed system with a drop-off scheme, and the formal recognition and support for *catadores* (Dias, 2011:2). A Solid Waste National Policy was passed in 2010, which recognized waste pickers' cooperative as service providers and developed mechanisms to integrate waste pickers into the country's formal waste management system. The focus was to establish safe disposal systems, decreasing the amount of waste generated, and increasing re-use and recycling, all through collective efforts of the government, private and informal waste sector (Kaza *et al.*, 2018:161).

With ASMARE, the *catadores* moved from working with no organization, to being able to voice their own demands, and were involved in the formal roles including policymaking and ownership of recycling facilities (Cannon, 2020). The introduction of ASMARE supported empowerment, greater self-esteem, and improved working and living conditions (Cannon, 2020). The government currently implements the separation at source scheme as part of their Integrated Solid Waste Management (ISWM) framework. Informal recycling is effectively regulated, and social issues are addressed (Kaza *et al.*, 2018:161; Cannon, 2020).

2.4.2 Waste picker integration in India

Waste pickers in Pune, India, transformed their lives by defining a legitimate workspace for themselves in the municipal solid waste management (Chikarmane, 2012:1). In 1993, waste pickers formed a union "Kagad Kach Patra Kashtakari Panchayat" (KKPKP) (Chikarmane, 2012:1; Dias, 2016:381). The KKPKP argued that waste pickers recovered material for recycling, reduced the costs associated with handling and transportation of waste within the municipal solid waste management system, thereby generating employment, and contributing to environmental protection. They further alluded that, waste pickers activities constituted work, and therefore, deserved recognition. One of the first milestones of the KKPKP's work was the establishment of the Solid Waste and Collection Handling (SWaCH) which is India's first wholly worker-owned waste pickers cooperative (Chikarmane, 2012:2). Importantly, the KKPKP called for the waste pickers to be integrated, particularly at the point of waste generation itself. This meant that, waste pickers would have direct access to waste where it is generated.

In 2000, the national government of India set out new municipal solid waste rules for the first time, to ensure the segregation of waste, door-to-door collection, and the processing of recyclable materials. Importantly, these rules allowed the engagement of the Pune Municipal Corporation

(PMC) to engage with the waste pickers (Dias, 2016:381). The KKPKP made strategic contributions to various committees and commissions within the government, and the recommendations were eventually incorporated and led to a policy enabling environment with the initiative aimed at integration (Chikarmane, 2012:4). The City entered a PPP with SWaCH and signed a memorandum of understanding that offered SWaCH responsibilities for collecting source separated waste from households and business establishments, then depositing the waste at designated points, and charge a user-fee. The agreement also enabled the waste pickers to reclaim and sell recyclables from the waste (Kaza *et al.*, 2018:161). The prominent factor about SWaCH was that its staff members were not professional managers, but they were barefoot managers who developed their capacities through training on the job (Chikarmane, 2012:8).

2.4.3 Waste picker integration in Pakistan

In the City of Lahore in Pakistan, the local authority developed a framework that presents a possible solution towards integrating waste pickers in the formal waste management sector. In the framework, it was suggested that the municipality draws up a contract that would allow waste pickers already existing in the area to operate. This meant that waste pickers would organise and be registered on the municipal database. However, the registration of waste pickers on the data base would be a challenging task as most of the waste pickers were illegal immigrants from the neighbouring countries such as Afghanistan and Iran (Yousafzai *et al.*, 2020:6).

Waste pickers were to be provided with safety equipment such as gloves, hats, uniforms and identification cards. NGOs were to be roped in, to assist with communicating and negotiating with waste pickers at the initial stages of the integration process (Masood & Barlow, 2013:98). The framework also suggested that residents contribute a fixed amount of money monthly that be payed to the waste picker cooperatives. Residents were already paying an additional amount to waste pickers when the municipal waste collection was infrequent. Therefore, the suggested arrangement would save residents some money if the amount was a small portion included on the monthly service fees. The money was to be collected through the water and sanitation department (Masood & Barlow, 2013:98). It was believed that, the monetary benefit to waste pickers will provide fixed income and motivate them.

Pakistan, like with other countries with a significant presence of waste pickers, is faced with a problem of illegal, undocumented people turning to waste picking for survival, and this affect the integration of such waste pickers. Yousafzai *et al.* (2020:10) suggests the enforcement of the Citizenship Act of 1951 which allows waste pickers born by illegal immigrants and have been living in Pakistan for more than a generation, to receive identity cards and residency permits.

There is a lack of understanding and proper enforcement of such laws for the underprivileged living in impoverished communities.

2.4.4 Waste picker integration in the Philippines

In the 1980s after the growing realisation that waste pickers were playing a crucial role in the junk shops-recycling networks (also referred to as BBCs), the Metro Manila region in the Philippines, initiated the Cash for Trash programme that was focused on strengthening BBCs (Chikarmane & Narayan, 2009:57). The Cash for Trash programme allowed an easy trade of recyclables between waste pickers and the junk shop. However, this was not the original plan. The original plan was to implement a waste separation and resource recovery as the foundation to implement programme. Later in 1983, women in Metro Manila established an NGO movement called the *Balikatan* (shoulder to shoulder) Movement. The main focus of the movement was to implement the original concept of the Cash for Trash program, which was to buy recyclable items from the waste pickers and the community with the aim of protecting the environment (Paul *et al.*, 2012:2019). The NGO advocated for source separation of waste material at household level and organise junk shops around the area and connect them with communities for effective collection of recyclable material. The initiative was able to organise waste pickers into cooperatives and provided easy access to government subsidies, so as to enable waste pickers to get better trading deals with big junk shops and other formal institutions in the recycling sector (Chikarmane & Narayan, 2009:58).

In Iloilo City, in the Philippines, the municipality integrated waste pickers into the municipal waste management system through developing a new livelihood association called USWAG Calahunan Livelihood Association Inc. (UCLA). The main objective of this initiative was to offer waste pickers skills and development training in order to capacitate them as partners of the municipality. Furthermore, to ensure that waste pickers have access to waste material, the municipality implemented the local ordinance that requires residents to separate biodegradable waste and general waste, and transport the waste to the local materials recovery facility or collection points (Guya, 2019:26; Paul *et al.*, 2012:2019).

This section of the literature review gives a reflection that, there is no all-encompassing approach for integration for every country (Aparcana, 2017:5). Among the wide range of understandings of what waste picker integration mean and different approaches towards achieving integration, all these approaches claim to benefit waste pickers in one way or the other (Samson, 2020c:65). This section of the literature review connects with the problem statement in Chapter One in that, the term integration is not fully a concept, but rather a term used in policy and its meaning may be contested.

The next section provides a detailed discussion on the development of waste management related legislation in South Africa, and highlights progress being made by the government to include waste pickers and their activities in the national policies to recognize waste pickers directly or indirectly by integrating them into the formal waste management sector.

2.5 Legislative framework on waste picking in South Africa

This section provides a background on the legislative framework on waste management that explicitly addresses waste picking in South Africa. The discussion will provide a background and developments on waste management legislation and policies over the years from the publication of the Waste Act (NEMWA) in 2008, until the year 2020 after the publication of the Waste Picker Integration Guideline for South Africa. The discussion highlights efforts made by the waste sector to recognize and integrate waste pickers in the formal waste management sector. Table 2-1 provides a summary of the legislative framework in the waste management sector over the years in South Africa.

Table 2-1: Summary of the legislative framework on waste management over the years.

Legislative tool	Year	Significance in waste management	Recognition of waste pickers
National Environmental Management Waste Bill	2007	Recognized waste as a resource that provides opportunities. The amendment of the Bill allowed the NEMWA to stipulate the conditions in which salvaging of waste may be undertaken.	The amendment of the Bill recognized waste pickers; this was the first time waste pickers were directly recognized.
National Environmental Management Waste Act (59 of 2008)	2008	Aims to divert waste away from the landfill by encouraging the implementation of the waste hierarchy. Makes provision for municipalities to amend their landfill site permit in order to allow waste pickers to salvage recyclable material from landfill.	Recognizes waste pickers and their role in the value chain, but not significant provision is made to integrate waste pickers in the formal waste management sector.
National Waste Management Strategy	2011	Provides strategies for municipalities to achieve goals set out in the NEMWA. Addresses the challenges in the waste management sector in South Africa.	The first policy document to directly mention waste pickers.
National Waste Management Strategy	2020	Address the role of waste pickers and the informal sector in the circular economy. Promotes approaches to the product design and packaging in order to reduce waste.	The strategy emphasizes the need to implement innovative approaches and tools engage waste pickers.

Waste Picker Integration Guideline of South Africa	2020	<p>Provides guidance on how local government and industry can integrate waste pickers in their formal waste systems.</p> <p>Assist local government and industry to institutionalize and implement waste picker integration plans.</p>	<p>The Guideline recognizes the role of waste pickers in the waste management sector.</p> <p>The guide highlights the importance of integrating waste pickers in the formal waste sector.</p>
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2.5.1 National Environmental Management Waste Bill

In 2007, the National Environmental Management Waste Bill was introduced, which recognized waste as a resource that provides economic opportunities (RSA, 2007). Ironically, the first draft of the Bill did not acknowledge waste pickers who make a living by picking up trash and did not have any plans to boost their status within the waste management system (Samson, 2008:2). Following this, the environmental justice non-governmental organization groundWork and the SAWPA intervened and persuaded the government to amend the Bill. Following the amendment of the Bill, the NEMWA (Act 59 of 2008) was promulgated which stipulates in Section 51(1) that “[a] waste management licence must stipulate if applicable, the conditions in terms of which salvaging of waste may be undertaken”. Although the Bill does not specify how salvaging should be performed or when it should be allowed, this amendment was significant in that it recognized informal waste pickers for the first time in South African legislation.

2.5.2 National Environmental Management Waste Act (Act 59 of 2008)

NEMWA was enacted in the year 2008, which is a waste-specific act that is guided by integrated waste management principles and provides a holistic approach to the management of waste. The focus of this waste-related legislation in South Africa is the implementation of the waste hierarchy to ensure the diversion of waste away from the landfill, and it is a resource-based legislation that aims to protect health and the natural resources against the impacts associated with poor waste management practices (NEMWA, 2008). NEMWA stipulates that, sustainable development is to be achieved through waste minimization, recycling, reuse, and recovery (NEMWA, 2008). The NEMWA among other things, attempt to recognize waste pickers by allowing municipalities to amend their landfill site permits to allow waste pickers to salvage materials from the landfills (Godfrey & Oelofse 2017:7). Although this brought some changes towards diverting waste away from landfill in the waste management sector, significant recognition to waste pickers was still not given, particularly their contribution towards the value chain of waste (Sekhwela & Samson, 2020:26).

2.5.3 National Waste Management Strategy

In the year 2011, the National Waste Management Strategy (NWMS) was published. The NWMS was created as a statutory mandate of NEMWA, with the aim of achieving the objectives of NEMWA (DEA, 2011). This policy document provides strategies for municipalities to achieve goals set out in the NEMWA. The NWMS promotes a sustainable waste hierarchy through waste minimization, reduction, reuse, and recycling of waste as illustrated earlier in Figure 2-1. Furthermore, it addresses the waste management challenges in South Africa such as backlog and inequalities in waste service delivery, and the poor quality of waste information systems among others.

The NWMS is the first policy document to significantly recognize waste pickers as key stakeholders in achieving the waste management goals in the country and integrate them into municipal waste management systems (DEA 2011:27). Goal three (3) of the NWMS deals with growing the contribution of the waste sector to the green economy (NWMS, 2011:16). In the quest to recognize waste pickers and integrate them in the formal waste management system, the objectives of goal three (3), includes creating descent jobs so as to improve working conditions through formalizing the role of waste pickers, and broadening participation by SMMEs and marginalized communities in the waste sector (DEA, 2011:27). Furthermore, the NWMS commits the DFFE to provide guidance to municipalities and businesses on how to improve working conditions of waste pickers (NWMS, 2011:27). This commitment led to the development of the Waste Picker Integration Guideline for South Africa, which was published in August of 2020. The work leading to the development of this Guideline is discussed in the next section below.

The NWMS 2020 was published building on the successes and lessons learnt from the implementation of the 2011 strategy. The NWMS 2020 brought significant strategic shifts from the NWMS 2011, including addressing the role of waste pickers and the informal sector in the circular economy, promoting product design in terms of the packaging through EPR, which reduces waste or encourages reuse, repair, and preparation for recycling, and supports Separation at Source (S@S) markets (DEFF, 2020). The NWMS 2020 aim to promote engagement with the National Treasury regarding the operational expenditures for municipalities for implementation of the NWMS. Additionally, the strategy of 2020 investigates potential regulatory interventions that increases participation rates in S@S programmes.

2.5.4 Waste Picker Integration Guideline for South Africa

The Waste Picker Integration Guideline for South Africa was published in the year 2020 after consultation with all key stakeholders in the waste management sector. The Guideline aims to provide guidance to municipalities and industry on how to integrate waste pickers in the formal

waste management sector and improve their working conditions. Since 2012 the Department of Environmental Affairs (DEA) (now DFFE), held a number of workshops with municipalities, industry, and waste pickers at which contributions of waste pickers to the recycling economy was acknowledged (DEFF, 2020). These engagements led to the affirmation that waste pickers should be included in the formal waste management system. During the workshop, the work then shifted to how the inclusion was to be undertaken. Issues such as legal framework, institutional framework, and operational matters for the inclusion of waste pickers were discussed. DEFF also held an international workshop with Latin American experts who shared their extensive experience on the integration of waste pickers in the formal waste sector. The workshop gave guidance to the development of the waste picker integration Guideline (DEFF & DST, 2020:iv). The Guideline drew inspiration from international countries such as Brazil, India, and Balkans, which are countries that were already ahead with the integration.

Section H of the waste picker integration Guideline provides seven (7) steps as illustrated in Figure 2-3 below, that can be followed as a participatory process to design and implement waste picker integration programmes and plans. This section in the waste picker integration Guideline also provides suggestions on how key challenges related to the integration of waste pickers can be addressed.



Figure 2-3: Seven steps for waste picker integration (Adopted from: DEFF & DST, 2020:59).

The seven key steps to waste picker integration according to the Guideline are summarized below (DEFF, 2020:60):

1. Prepare:

This step involves the establishment of an internal waste picker integration team; learning and deepening the knowledge about waste pickers and their integration; committing to implementing waste picker integration and analysing the existing commitments and programmes.

2. Partner:

The second step emphasizes the collaboration between institutions and waste pickers to establish an inclusive waste picker integration working group to plan and oversee the integration process. The working group should have meetings with waste pickers regularly to engage and share all relevant information in order to develop common understanding of the existing recycling systems and clarify different roles for all stakeholders.

3. Plan:

In the third step, all waste pickers should be registered, and their key needs should be addressed. Problems of existing recycling programmes should be addressed and rectified, and waste pickers and their informal waste systems should be integrated into new recycling programmes.

4. Enable:

This step involves the alignment of regulatory tools such as by-laws, permits, policies and plans to support the integration of waste pickers. Institutions shall ensure that the internal teams have the relevant skills to implement waste picker integration. This may be achieved through providing ongoing training for officials and develop awareness campaigns through conducting educational activities. Institutions should also secure funds for waste picker integration and collection of recyclables.

5. Institutionalize:

The fifth step emphasizes the inclusion of key planning documents at institutional level which include among others, Integrated Development Plans (IDPs), IWMPs, Business Plans, and Waste Picker Integration Plans (WPIPs). Institutions shall make waste picker integration part of the employees Key Performance Indicators (KPIs).

6. Implement:

In this step, all plans, and activities relevant to the integration of waste pickers shall be implemented. Monitoring and evaluation of these plans shall be conducted regularly.

7. Revise:

In this final step, the WPIP should be revised based on the evidence gathered during the implementation. This step suggests changes to WPIP, policies, KPIs, and planning documents at institutional level. This is to ensure that revised WPIP is adopted, and new targets, commitments, and activities are included in the relevant planning documents and policies.

This section provided a detailed discussion on the applicable waste management legislation and highlighted the work that has been done in South Africa over the years to move towards recognizing and integrating waste pickers in the formal waste management sector. The next section will detail how some of the municipalities in South Africa, particularly in the Gauteng province, implemented initiatives aimed at achieving waste picker integration into their formal waste management systems.

2.6 Integration of waste pickers in South African Municipalities

As already stated in Chapter One, municipalities have started to integrate waste pickers within in their formal waste management systems in South Africa (Sekhwela, 2017:2). According to Perez (2019:150) in some municipalities in certain parts of the country, for example, in the City of Johannesburg (COJ), waste pickers working at landfill sites have already been incorporated into the municipal waste management systems. However, in the past, as indicated in the previous section, South Africa's policies and legislation exclusively focused on the collection and disposal of waste, and waste pickers did not appear anywhere in the policies and legislation (Sekhwela & Samson, 2020:26). Waste pickers were prohibited from working at the landfill sites and were subjected to extreme harassment if they be found at the landfills (Sekhwela & Samson, 2020:26). Due to the absence of national policies that governs the integration of waste pickers, each municipality developed their own approach to the integration (Sekhwela & Samson, 2020:26). Simatele *et al.* (2017:124) argues that, the lack of comprehensive policies and technical know-how have greatly contributed to the failure in municipalities' ability to develop and implement appropriate strategies, technology and approaches towards waste picker integration. Chimuka and Ogola (2015:196) are of the opinion that, the lack of skills and apathy at managerial level, coupled with corruption and mismanagement of resources in South Africa's municipalities have contributed to the lack of appropriate policies and strategies towards a sustainable Municipal Solid Waste Management (MSWM).

This section provides a background of initiatives implemented by some municipalities in the Gauteng province, to integrate waste pickers into their formal systems. Two main metro

municipalities in the Gauteng province demonstrate the fragmented approach to waste picker integration in South Africa:

2.6.1 The City of Johannesburg (COJ) Waste Picker Integration

The COJ started working with waste pickers in the year 2008, and in the year 2011 the Environment and Infrastructure Services Department (EISD) developed the Integrated Waste Management (IWM) policy and IWMP in terms of the NWMS of 2011 (Sekhwela & Samson, 2020:26; Simatele *et al.*, 2017:128). The EISD is responsible for the COJ's waste management policy, while, Pikitup which is the official integrated waste management utility owned by the COJ, is responsible for the implementation of the COJ's plans and policies (Samson *et al.*, 2020:5). According to Komane (2014:30) the COJ has demonstrated their recognition of waste pickers' role in waste management, through their objectives outlined in the 2011 IWMP which includes the following:

- Development of programmes to encourage S@S;
- Identify and implement potential waste diversion mechanism to be employed to reduce waste that ends up at landfill;
- Evaluate and implement appropriate mechanisms to formalize informal salvaging at the landfill sites;
- Ensure waste minimization, re-use, recycling, and recovery practices are adopted in the City's plans;
- Creating sustainable employment through local entrepreneur development in waste minimization, re-use, recycling, and recovery; and
- Develop and implement appropriate regulatory instruments (Komane, 2014:30).

The COJ developed policies and plans aimed at implementing programmes that supports waste pickers. The first policy which was the Reclaimer Empowerment Plan (REP), introduced in 2011 through the EISD. Even though the REP recognized that waste pickers were essential to waste minimization, and potentially saves municipality's landfill space and money (Godfrey *et al.*, 2016:1), recycling was not Pikitup's plans and did not support the objectives of the REP. As a result, waste picker integration did not feature in the Pikitup business plan (Samson *et al.*, 2020:6). Initially, the Pikitup strategy was to control waste pickers with the aim to reduce their numbers, despite waste pickers being the major contributor towards the City's achievement of recycling rate being comparable to some European countries (Samson *et al.*, 2020:7). In 2013, the Pikitup S@S Strategic Plan for 2013-2016, included the formalizing of waste pickers as key principles of S@S which created a work stream on the incorporation of waste pickers into the S@S programme. However, the 2015/16 – 2016/17 Pikitup S@S strategy indicates that the inclusion of waste

pickers in the plans and policies was inconsistent and on ad hoc basis (Samson *et al.*, 2020:7-9). Private waste management companies were given the responsibility of S@S in the middle and high income areas, in order for them to contribute their knowledge and infrastructure, no consideration was given to waste pickers (Samson, 2020a:6). The 2018/2019 Pikitup Business Plan shows that waste pickers were less prioritized, the focus shifted to co-production with communities, and only two specific commitments were set aside for waste pickers. The first commitment was to organize waste pickers and small scale waste collectors in order to enable them to partner with the private sector so support their infrastructural need. Secondly, to facilitate training of waste pickers by relevant partners (Samson *et al.*, 2020:9).

2.6.2 The City of Tshwane (COT) Waste Picker Integration

Waste pickers have been waste picking recyclable material from landfill sites for at least over thirty years in the City of Tshwane (COT) (Samson, 2010:1). Prior to the merger of councils that now comprise of the COT, councils were hostile towards waste pickers (Samson, 2010:1). Waste pickers were forced to work for exploitive contractors or were denied access from the landfill sites. In the year 2000 before the merger, the then Greater Pretoria Metropolitan council decided that, instead of evicting and denying waste pickers access to the landfill sites, rather the council enhance waste pickers since it was realized that it would be difficult and costly to remove them (Samson, 2010:4). Additionally, the municipality realized that, in the absence of formal recycling systems within the municipality, waste pickers played a vital role in assisting to reducing the amount of waste material going to the landfill, saving the municipality money and space for the construction of landfill (Samson, 2010:4).

In 2019 the municipality reported that the City was looking at ways of improving its waste processes. The focus was on three main issues which were firstly, to convert garden waste into compost to divert garden waste away from landfill; secondly to roll-out S@S initiatives and education campaign at household level to improve the recycling rates; lastly, to focus on integrating waste pickers in their formal waste systems (Infrastructure News, 2019). Towards integrating waste pickers in the municipal waste management system, according to senior City officials, the City planned to build three sorting facilities as a start. Those sorting facilities will also have ablution facilities, an administrative office, and lockers where waste pickers can store their trolleys overnight. It was indicated that the application and amending of the by-laws would follow at a later stage as the legalities surrounding the process were to lengthy and expensive (Infrastructure News, 2019).

The literature highlights that currently, very few South African municipalities have comprehensive plans to integrate waste pickers. As a result, waste picker integration projects tend to be on ad

hoc basis and do not necessarily address the most crucial issues or improve waste pickers' working conditions and incomes (DEFF & DSI, 2020:58). This indicates that there is still a lot of effort to be made towards the integration of waste pickers by some South African municipalities.

2.7 Chapter summary

This Chapter has presented a review of literature from various scholars and policy documents on waste pickers and their integration in the formal waste management sector. Social challenges of waste pickers were outlined in this chapter, highlighting stigmatization as a social barrier for waste pickers to be socially accepted in the society. Therefore, waste pickers are subjected to brutality and lack of recognition. Literature showed that, there is a no one-size fits-all approach towards the integration of waste pickers in the formal waste management sector, with each region or municipality implementing its own approach in the way they see fit. Interestingly, all the different approaches implemented at different regions appeared to have one common goal, which is to integrate waste pickers in their formal waste management systems. The DEFF together with stakeholders have developed a Waste Picker Integration Guideline for South Africa to assist municipalities and industry with successfully integrating waste pickers in the formal waste sector. This initiative was done in trying to consolidate all the different approaches and provide guidance towards an effective waste picker integration. However, there appears to be a gap in the literature on how officials of the role players in the formal waste sector perceive the integration of waste pickers. The literature review presented in this chapter has shed light on the suitable research methodology for this study, which will be presented next in Chapter Three.

CHAPTER 3 METHODOLOGY

3.1 Introduction

Previously in Chapter Two, the literature review was provided, presenting waste picker integration approaches employed by different institutions in different regions, the role of waste pickers, and their challenges. Chapter Three addresses the research methodology that was employed to achieve the aim of this study, which was to investigate perspectives of role players on waste picker integration in the formal waste management sector. In achieving this study aim, the first objective aimed to investigate the different views of role players on the integration of waste pickers in the formal waste sector, and the second objective aimed to determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. To achieve these objectives, a population sample was drawn purposefully and also through applying the snowball sampling technique, semi-structured interviews were conducted, using an open and close-ended questionnaire. Each of these approaches including ethical considerations are discussed in detail below.

3.1.1 Literature review

A literature review was conducted for this study, which was presented as Chapter Two of this dissertation, in order to contribute to the current body of knowledge on perspectives of role players within the formal waste management sector on the integration of waste pickers into the formal waste management sector. The literature review for this research study was extremely useful in providing insights or identifying areas where additional research may be needed to clarify the problem (Brereton, 2007:572).

As the first step in conducting the literature review, relevant keywords were identified based on the study's title and objectives. Secondly, a literature search was conducted using the words identified in the first step. The literature was subjected to an eligibility criterion based on its ability to address the research problem and objectives. Efforts were also made to source literature that had been published in the previous five years that was relevant to both the international and South African context. Literature sources were obtained from the North-West University Library (NWU) EBSCO Discovery Services (EDS), which gave access to numerous other data bases, including Science Direct, Scopus, Sage, and Google scholar. Additionally, the Google search engine was used to access different government websites, institutions, and newspaper articles, to access documents such as Acts, policies, and programmes. Finally, the literature was critically analysed and integrated into this dissertation and presented as a literature review in Chapter Two.

3.2 Qualitative research approach

In this study, qualitative research approaches were applied, which according to Pathak *et al.* (2013:192) are used to understand people's experiences, beliefs, behaviour, attitudes, and interactions. Since this study aimed to investigate the perspectives of different role players on the integration of waste pickers, it was understood that the data collected could not be measured or counted (Hammarberg, 2016:499). Thus, the qualitative research approach was best suited for this study, given that the problem or issue at hand needed to be explored by identifying variables that cannot be measured and to hear silent voices of role players in the formal waste management sectors on their views of the integration of waste pickers (Creswell, 2016:47).

In the context of this study, a qualitative research approach was most appropriate for this research study to address the first research objective set earlier in Chapter One, which sought to address different views of role players in the formal sector on waste picker integration. Weiss (1994) emphasizes that a qualitative study focuses on understanding a research query as a humanistic approach, which will allow the participants to share their experiences. Corbetta (2003) adds that a qualitative research design is beneficial when the study is aimed at obtaining insight into situations and challenges as it offers in-depth knowledge relevant to the problem, and further allow the views of respondents to contribute to the outcome of a study. This feature responded to the second objective of this study, which sought to investigate the challenges and opportunities associated with the integration process.

The data collected involved interviewing individuals who had experience in municipal solid waste management as discussed below, this method of collecting data is typically a qualitative research method (Creswell & Poth, 2018:77). According to Weiss (1994), qualitative methodology is flexible and creates room for further follow-ups if responses warrant further clarification.

3.2.1 Qualitative research designs

There are five qualitative research designs which includes: ethnography, grounded theory, phenomenology, narrative theory, and case studies (Creswell & Poth, 2018:75). This study employed a qualitative phenomenological design to investigate different views and opinions of role players on the integration of waste pickers in the formal sector. The phenomenological design focuses on describing what all participants have in common, with the purpose to reduce individual experiences with a phenomenon to a representation of its universal nature (Creswell & Poth, 2018:75).

According to Moerer-Urdahl and Creswell (2004:19), there are two phenomenological approaches, namely: transcendental phenomenology and hermeneutic phenomenology.

Transcendental means “in which everything is perceived freshly, as for the first time” (Moustakas, 1994:34). This involves identifying a phenomenon to study, bracketing out the researcher's experience, and collecting data from individuals who have experienced the phenomenon (Creswell & Poth, 2018:78). Husserl (1931) as quoted by Eddles-Hirsch (2015:252), is considered the father of transcendental phenomenology, which also forms the basis of all the other phenomenological approaches, considered the transcendental phenomenology to be a valid alternative to the scientific method of research. Husserl (1931) believed that by using the reduction process, a researcher could investigate deeply into the consciousness and uncover the underlying structures of a phenomenon. He further emphasized the technique of bracketing, whereby a researcher could purposefully set aside their experiences as much as possible to take a new perspective towards the phenomenon under investigation.

The transcendental phenomenology identified by Husserl (1931) and translated into a qualitative method by Moustakas (1994:34) almost 60 years later, held promise as a viable procedure, best suited for this research study to investigate the perspectives of key role players on waste picker integration in the formal waste sector. This method works well for this study as the methodology provides logical, systematic and coherent elements that lead to an essential description of the key role players' experiences with the waste picker integration concept.

In this study, data collected was analysed and reduced to significant statements or quotes, then these statements were combined into themes, as described by Moustakas (1994) in his procedure following the transcendental phenomenology. Data collection and data analysis are discussed in length in the following sub-sections in this chapter.

3.3 Research sampling strategy

This study employed purposive and snowball sampling techniques to identify and select the study population. Purposive sampling entails the selection of participants by the researcher based on their presumed knowledge of the topic that is being researched (Bernard, 2017:190). In addition to the knowledge and experience, the willingness and availability to participate are crucial. Furthermore, participants are also selected based on being able to communicate experiences and opinions in an articulate manner (Etikan, 2016:2). Purposive sampling was chosen for this study since individual participants in the formal waste management sector were well experienced and well-informed on the subject of waste picker integration in the formal waste management sector.

3.3.1 Sampling technique

The study sample initially was focused at including representatives from different institutions such as municipalities, private recycling facilities, buy-back centres (BBCs) and waste picker associations in the Gauteng province. However, only representatives from municipalities and BBCs in the Gauteng province were included in the final sample after data saturation has been reached. Generally, the study participants included strategic decision-makers, waste management officials and BBC operators who engage with waste pickers along the value chain of waste management. The rationale for this choice was to ensure that different views are captured from role players at different institutions, and at different levels on the organizational hierarchy.

For municipal participants, the snowball sampling technique was also applied in the study. The snowball method is a unique non-probability sampling technique for developing a research sample where existing study participants recruit future participants from among their associates (Katz, 2006:4). For research participants in BBCs, participating municipalities assisted to identify participants in BBCs since municipalities are the key stakeholders in the management of waste and had contacts of those BBCs operating within their municipal areas. This method was also adopted by Mvuyane (2018) in her study on perspectives on supporting and formalizing informal solid waste pickers in Johannesburg.

3.3.2 Sample size

The final sample size comprised of a total of 19 participants. Out of a total of 19 participants, 15 (79%) were drawn from municipalities and four (21%) represented BBCs. All 19 participants completed the questionnaires, either with the principal researcher or self-administered resulting in a response rate of 100% in the study ($19/19 \times 100\% = 100\%$).

While conducting interviews is an ideal method of obtaining in-depth data, interviews are time-consuming since the data collected has to be transcribed (DeFranzo, 2014). Therefore, a small sample size is ideal to better capture in-depth data about the participants' perspectives (DeFranzo, 2014).

3.3.3 Study area

To establish the perspectives of different role players on the integration of waste pickers in the formal waste management sector, this research study was conducted in four municipalities and four BBCs in the Gauteng province of South Africa (Figure 3-1). The municipalities included two (2) metropolitan municipalities (City of Johannesburg and City of Tshwane), two (2) local

municipalities (Rand-West City Local Municipality and Merafong City Local Municipality), and four (4) BBCs. The Gauteng province was selected because it is home to South Africa's largest population of about 12 272 263 and is the smallest province with a land area of 1.4% (Stats SA, 2012:15), and contributes 45% of the total waste generated in South Africa (DEA, 2012). Gauteng has half of all recycling companies in South Africa, they handle 58% of the country's recyclable material (Plastic SA, 2020:14).

This study focused on metropolitan municipalities, local municipalities, and BBCs in the Gauteng province. This allowed the research to draw perspectives on waste picker integration from varying sized municipalities who represented varied approaches to waste management, varied adoption of policies in waste management and views on strategic issues that align with the national development goals of South Africa.

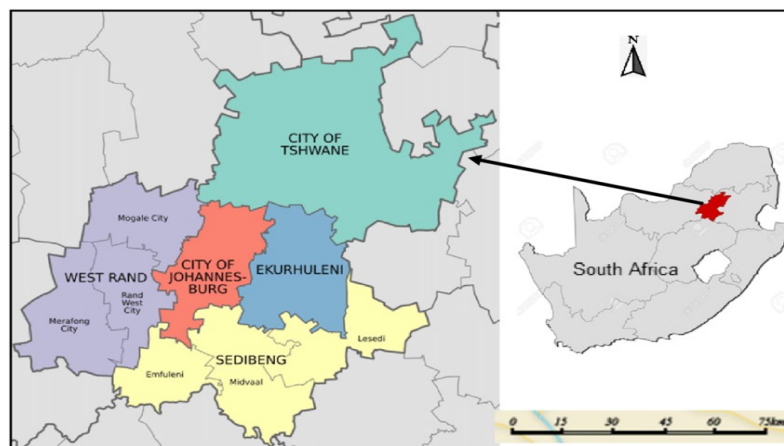


Figure 3-1: Locational Map of Gauteng province (Adapted: ArcGIS, 2021).

3.4 Data collection

In this study, the data collection method applied was semi-structured interviews, in which a set of open-ended and some close-ended questions were asked to the participants. In qualitative research, interviews are conducted when the researcher asks participants open-ended questions and record their responses. Often audio tapes are used to facilitate accurate transcription (Creswell, 2012).

Data collection methods are crucial in research, since how the information collected is used, and what explanation it can generate, are determined by the methodological approach applied by the researcher (Paradis *et al.*, 2016:263). Fowler (2009:68) also supports the notion by emphasizing that, the most important decision a researcher needs to make is the way data will be collected.

3.4.1 Semi-structured interviews

Semi-structured interviews were conducted in this study, using a semi-structured questionnaire that consisted of both open-ended and close-ended questions. The questionnaire is attached in Annexure C, and a summary of a list of the questions is illustrated in Table 3-1 below. Blandford (2013:4) defines semi-structured interviews as a “combination of structured interviews which come in the form of the questionnaire, where all questions are pre-determined, and unstructured interviews which take the form of a conversation between the researcher and the participant”. According to Wengraf (2001) semi-structured interviews refer to the questions and answer meeting between the interviewer and the interviewee on a one-on-one basis within the interviewee’s natural setting. Compared to structured interviews, semi-structured interviews can allow better use of knowledge-producing potentials of dialogues by giving leeway for follow-up on whatever information the interviewer may feel is crucial. Additionally, in the semi-structured interview, the interviewer has the privilege to focus the conversation on issues that he or she deem important in terms of the study (Leavy, 2020:437). These type of interviews are comprised of open-ended and close-ended questions. Open-ended questions were used to obtain unlimited and impartial responses (Creswell, 2012), while close-ended questions provided pre-set responses. For example, Section A (A2 & A3) of the questionnaire, as illustrated in Table 3-1, comprised of close-ended questions that required participants to choose from a list of pre-set answers about their occupational experience, whereas Section A question A1 represented an open-ended question that required the respondents to provide more details. A brief discussion of the structure of the questionnaire is provided in the next section below.

Interviews were conducted in the period August to November 2021. Interviews were conducted during the COVID-19 pandemic, when South Africa was under national lockdown alert level 3 in terms of the National Disaster Management Act No 57 of 2002. During this time, person-to-person contact was discouraged. Therefore, participants were given an opportunity to choose if they preferred to be interviewed face-to-face, telephonically, or virtually (via Microsoft Teams, Zoom or Skype). Six (6) participants preferred face-to-face interviews, four (4) of the six (6) participants were interviewed at their place of work, while one (1) interviewee preferred to be interviewed at their residence and the other was interviewed at a public restaurant. During face-to-face interviews, COVID-19 protocols of hands sanitization, wearing of face masks and keeping a social distance of two (2) metres between persons were strictly adhered to. Seven (7) interviews were conducted telephonically, and the remaining six (6) participants preferred to self-administer the questionnaire, which was then emailed back to the researcher. There were few participants who were contacted telephonically for follow-up purposes, however, this was communicated to them prior to the interview, and they gave permission to be contacted for follow-ups. Interviews were

conducted in English, however, participants were also given an opportunity to respond in other official languages such as Sesotho, Setswana, Sepedi, isiXhosa, and isiZulu, as these were languages that the researcher was fluent in. However, only two participants requested to be interviewed in both English and Setswana, the responses were translated to English during data transcription. Telephonic and face-to-face interviews were audiotaped, with the permission of the interviewee, to allow accurate transcription of the responses, then the recordings were deleted soon after they were transcribed.

3.4.1.1 Structure of the questionnaire

The questionnaire comprised of four (4) sections with a total of 13 questions as illustrated in Table 3-1 below (also see Annexure C). The questions were both closed-ended and open-ended. Section A consisted of questions relating to the background of participants (A1-A3) with the following required information: current occupation, work experience, and highest qualification. The aim of these questions were to acquire the background information of participants to understand their professional role in the formal waste management sector, and to determine the participants' eligibility in the research study. Such information is crucial in achieving the first research objective which was to investigate different views of role players in the formal waste management sector, since individuals with varying professional backgrounds will have different perspectives on the subject at hand. Section B consisted of four questions (B1-B4) which were relating to participants' understanding of the role of waste picker integration in the formal waste management sector. The questions also required participants to reflect on the waste picker integration plans and approaches that were implemented by their institution and comment on the progress being made thus far. The rationale behind the questions in this section was to probe participants to express their views on the integration of waste pickers in the formal waste management sector, so as to capture their own understanding of the phenomenon, and also to note if institutions in the formal waste management sector were making progress towards achieving the integration. Section C of the questionnaire focused on the Waste Picker Integration Guideline for South Africa and consisted of three questions (C1-C3). The aim for this section was to obtain an insight on the level of knowledge that participants possessed with regards to the Guideline and what is suggested in the Guideline. The Waste Picker Integration Guideline for South Africa is the cornerstone document designed to facilitate and standardize the approaches and plans that should be implemented to achieve integrating waste pickers in the formal waste management sector in South Africa (DEFF, 2020). The first question (C1) was a close-ended question seeking to know how familiar, the participants were with the Waste Picker Integration Guideline for South Africa. Question C2 probed participants to express their opinions on the alignment of what was implemented at their institutions to what was suggested in the Guideline,

and question C3 further required participants to state if they thought the Guideline assisted their institutions in facilitating the integration process. Finally, Section D was centred on the participants' perceived opportunities and challenges of integrating waste pickers in the formal waste management sector. Question D1 and D2 required participants to reflect on the challenges and opportunities they anticipate with integrating waste pickers in the formal waste systems. These questions are crucial in achieving the second research objective which aimed at determining the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. Question D3 required participants to recommend interventions to be implemented to maximize and achieve the integration process. This question is very important as the feedback provided will assist in providing measures that will serve as solutions towards the effective implementation of the integration process of waste pickers in the formal waste management sector.

Table 3-1: Summary of the list of questions and related research objectives.

Sections	Questions		Research Objective
A: Background of the participant	A1	What is your current occupation? Kindly elaborate on your field of occupation.	Objective 1
	A2	How long have you been occupied in this position? – A: 1-5 Years; B: 5-10 Years; C: 10-15 Years; D: More than 15 years.	
	A3	What is your highest level of qualification? A: Certificate; B: Diploma/BSc/BA/B-Tech/Hons; C: MSc/M-Tech/M; D: PhD; E: Other. Kindly elaborate on your qualification details in Question A3.	
B: The role of waste pickers and waste picker integration in the formal waste management sector	B1	What is your understanding of the role of waste pickers in the formal waste management sector? Kindly elaborate on your understanding.	Objective 1
	B2	What is your understanding of the integration of waste pickers in the formal waste management sector? Kindly elaborate on your reasoning for your answer.	
	B3	What approaches/plans have your institution implemented towards the integration of waste pickers in the formal waste management sector?	
	B4	Kindly reflect on the progress made by your institution in achieving waste picker integration into your waste management system?	
C: Waste Picker Integration Guideline for South Africa	C1	How familiar are you with the Waste Pickers Integration Guideline for South Africa? A: Not familiar; B: Slightly Familiar; C: Moderately familiar; D: Very familiar.	Objective 1
	C2	In your opinion, how is Section H of the waste picker integration Guideline aligned to what is currently implemented by your institution?	
	C3	In your opinion, how has the waste picker integration Guideline assisted your institution in facilitating the integration of waste pickers in the formal waste management system?	
D: Perceived opportunities	D1	What challenges have you experienced or anticipate with the integration process of waste pickers? Kindly elaborate on your perspective.	Objective 2

and challenges of integrating waste pickers	D2	What opportunities are there for your institution with integrating waste pickers? Kindly elaborate on your reasoning.	
	D3	What support or interventions would you recommend being implemented to achieve or maximise the process of integration?	

3.4.1.2 Piloting the questionnaire

Part of developing the questionnaire involved the piloting phase. The piloting stage is essential to check the validity and reliability of the questionnaire, to remove any errors such as wording or instructions that may cause confusion, and to allow the researcher to redraft the questionnaire (Marshall, 2005). The questions were piloted by e-mailing the sample of the questionnaire to four different officials in the West Rand District Municipality's Environmental Management, and Municipal Health Services Departments, who were also responsible for waste management. These individuals were selected for the pilot phase as they possessed similar characteristics of the main participants in this study, as suggested by Tarrant *et al.* (2014). The data produced during the piloting phase were analysed to ensure it produces usable findings, however, the data was not included in the findings of this research study.

3.5 Data analysis

Data was analysed manually by employing a thematic analysis on a Microsoft Excel spreadsheet. Thematic analysis is a method for identifying, analysing, and reporting data patterns or themes (Braun & Clarke, 2006:79). This form of data analysis method is appropriate for qualitative research as it provides flexibility (Clark *et al.*, 2015). According to Braun and Clarke (2006:87) thematic analysis comprises of six (6) phases which includes: (1) familiarising yourself with the data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing a report. In the context of this study, data was transcribed from the audio tapes recorded during the interviews as part of implementing phase one (1) of thematic analysis. This phase also included reading and re-reading the transcribed data, while noting down initial ideas. The second phase involved coding, where responses obtained from the interviews were grouped into codes. Data coding was done manually, in which the transcribed text was analysed, and notes were written on the text on a Microsoft Excel spreadsheet using highlighters to indicate patterns of interesting views of the data. It was important not to confuse codes with units of analysis which are themes. Codes identify features of the data that appears interesting to the researcher, whereas themes involve interpretive analysis relating to the phenomenon under investigation (Braun & Clarke, 2006:88). In phase three (3) codes were sorted into different

themes. To achieve this, tables were used to sort the themes according to main themes and sub-themes. In phase four (4) the identified themes were reviewed, this involved checking if the themes work in relation to the coded data and the entire data. A thematic map of analysis was then developed, thereafter, themes were reviewed and analysed to consider their validity in relation to the data. Phase five (5) was implemented which involved defining and naming themes. There were five main themes which were derived from the questionnaire, and sub-themes that were determined during data analysis. A detailed analysis of each theme was conducted and written down, and an overall meaning of what each theme represents. The five themes and their sub-themes included: (1) the role of waste pickers in the formal waste sector and sub-theme (1.1) diverting waste away from landfill; (2) defining the integration; (3) integration approaches; (4) Waste Picker Integration Guideline of South Africa; and (5) perceived opportunities and challenges with sub-themes (5.1) challenges, (5.2) opportunities and (5.3) recommendations. Lastly, phase six (6) involved finalizing the analysis writing up a report which is discussed in the next chapter (Chapter Four) of this dissertation.

Some data will be presented in tables and graphs. Tables are best suited to show comparison whereas graphs depict outcomes on relationships and trends (Bavdekar, 2015).

3.6 Ethical considerations

This study was conducted in accordance with the North-West University ethical requirements. The research proposal for this study was submitted and approved by the Environmental Management Scientific Committee, and permission to conduct the research was granted by the Faculty of Natural and Agricultural Sciences Research Ethics Committee (FNAS-REC) with ethics number NWU-00472-21-A9 (see Annexure B). The methodology for this study poses minimal/low ethical risk. Participants were invited to participate in the study and, a signed informed consent was obtained from the participants prior to their participation in the study (see Annexure A). Participants were made aware of their option to withdraw at any time from participating without any reason. Information about the identity of participants was not disclosed, in that, no names of participants or their institutions were revealed. All participants were allocated with individual numbers in no order irrespective of the institution they were representing. Instead, they were referred to as Participant 1 to Participant 19. The information provided was treated as anonymous. Participants were made aware that, there will be no incentives for participation since the study is purely for academic purposes only.

3.7 Assumptions and methodological limitations

This study was guided by the assumption that since waste picker integration in recent years has been a topic in the waste management sector, role players would be committed to engage in the waste picker integration interventions including research on the subject, and role players are well informed on the subject of waste picker integration.

Conducting interviews was a challenging experience. First, there were delays in acquiring permission from the institutions to conduct interviews for data collection. The reasons to this were attributed by the fact that people were either on quarantine/isolation or were working from home due to COVID-19 protocols, thus affected their efficacy to communicate timeously. However, the researcher constantly made follow-ups via emails until permission was granted. Even though there was a delay, permission was granted within the set time frame. Despite obtaining permission from the institutions, acquiring consent from participants was cumbersome. Some participants were on a rotational base as a result of COVID-19 protocols; therefore, they were unreachable on their work emails, resulting in a small sample size. Given the small sample size and the research limited to only the Gauteng province, the findings of this research could not be generalized to represent all role players in the formal waste management sector. After consent has been granted, it was difficult for participants to avail themselves for interviews. The researcher offered participants who could not do face-to-face interviews a choice to do interviews telephonically or via email. The researcher experiences some delays in getting back feedback from participants who did not respond within the set time frame. The researcher constantly followed up with the participants until feedback was received.

Another challenge was that some participants preferred to do interviews in their home language (Setswana), and this took a great amount of time during data transcription. However, the researcher was fluent in Setswana language and was able to translate the feedback. And since face-to-face interviews were recorded, the researcher was able to replay the audio over and over for accurate capturing of the data.

3.8 Chapter summary

This chapter outlined the methodology that was employed in this study. A qualitative research approach was adopted in this research to get an insight of experiences, opinions, thoughts, and feelings of participants on waste picker integration. Sampling methods employed in this research included purposive and snowball sampling. Data was collected through semi-structured interviews. The next chapter will present the data analysis and a discussion of the study findings.

CHAPTER 4 DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the findings and discussion of the study based on the research methodology that was presented in Chapter Three. The results are presented according to the structure of the questionnaire which includes themes derived from the questionnaire in Annexure C, and the emerging sub-themes that were identified during the data analysis from the responses. The questionnaire was developed according to the research objectives which also contributed to the emerged determined themes. Section A of the questionnaire consisted of both open and close-ended questions which provided the background information of participants and aided in determining the eligibility of participants. While questions in Section B to Section D were mostly open-ended, there was only one close-ended question in Section C. Questions in Section B to Section D were formulated to address the research objectives, with the first research objective being to investigate different views of role players in the formal waste management sector; and the second objective being to determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. The themes are summarised in Table 4-1 below and discussed in the next section which are as follows: Theme 1 – the role of waste pickers in the formal waste sector, with sub-theme (1.1) the diversion of waste away from landfill; theme 2 – defining integration; theme 3 – approaches to integration; theme 4 – Waste Picker Integration Guideline of South Africa; theme 5 – perceived opportunities and challenges, with sub-themes (5.1) challenges, (5.2) opportunities, and (5.3) recommendations. The terms *participant*, *respondent* and *role players* will be used interchangeably in the discussion of the findings, as they all refer to individuals who were interviewed in this research study.

4.2 Research findings

The background information of participants in Section A of the questionnaire and the themes derived from Section B to Section D of the questionnaire will form the basis of the discussion in this section.

4.2.1 Section A: Background information of participants (Question A1 – A3)

Section A of the questionnaire required the background information of participants within the environmental and waste management sector, which was crucial for this study to provide an understanding of participants and their level of understanding and competence of the subject under study. This section of the questionnaire consisted of three questions (A1–A3). Question A1

was focused on the occupation of participants, while Question A2 required participants to choose from the pre-specified options in terms of the number of years that the participants occupied their current position. Then finally Question A3 required participants to indicate their highest level of qualification by choosing from the pre-specified options which included a certificate; diploma /B.Sc./BA/B-Tech/Honours degree; MSc/M-Tech/M; Ph.D.; and Other. Participants were further requested to provide details of their qualification. The results for Question A1-A3 are discussed in the next subsections below.

4.2.1.1 Current occupation (Question A1)

Question A1 was presented in an open-ended style and required participants to state their current occupation and further provide details of their field of occupation. The findings revealed that the majority (11 of 19; 58%) of the participants were role players occupied in the lower management positions in the formal waste sector (Figure 4-1). The roles and responsibilities of participants in lower management included waste pickers empowerment programmes, compliance monitoring including by-law enforcement, coordination of refuse removal, waste minimisation education and awareness programmes, facilitating the trade of waste for money at the BBCs. Then 37% (7 of 19) of participants were in middle management whose duties included policy development and regulations, waste minimisation projects, and performance management and monitoring. Furthermore, only five percent (5%) (1 of 19) of the participants were in top management as indicated in 4-1 below and were responsible for the overall management of the department.

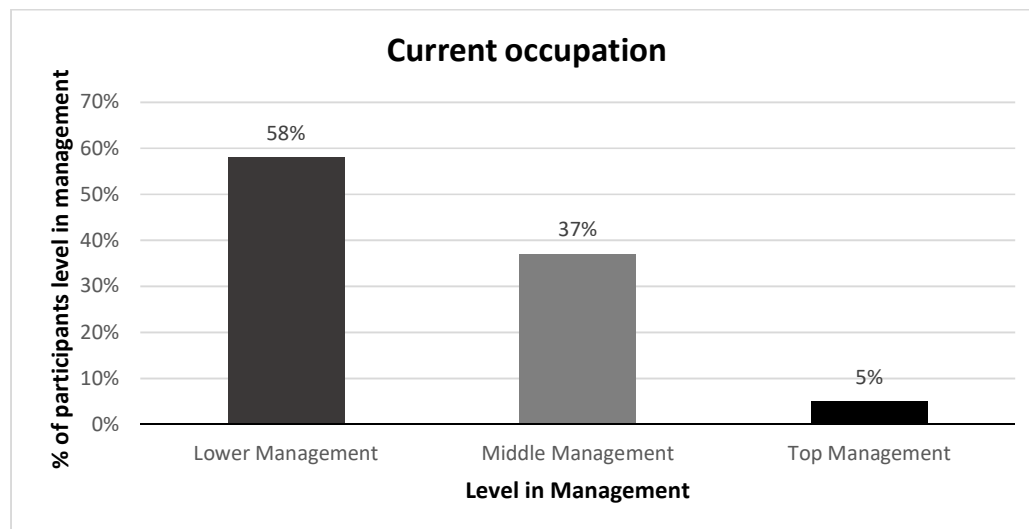


Figure 4-1: Current occupation of participants (Question A1).

It was key for this research study to request participants to elaborate on their current occupation in order to understand their point of reference. The findings highlighted the diversity of role players in the formal waste management sector.

4.2.1.2 Number of years occupied in the position (Question A2)

Question A2 required participants to state the number of years they have occupied their current occupation, and the question was presented in a close-ended style. Figure 4-2 below indicates that, the majority of the participants with 47% (9 of 19) were in their current occupation for one to five years, followed by 32% (6 of 19) in the five to ten years category, and 21% (4 of 19) were in their current position for 10 to 15 years. There were no participants that demonstrated that they had been in their current occupation for more than 15 years.

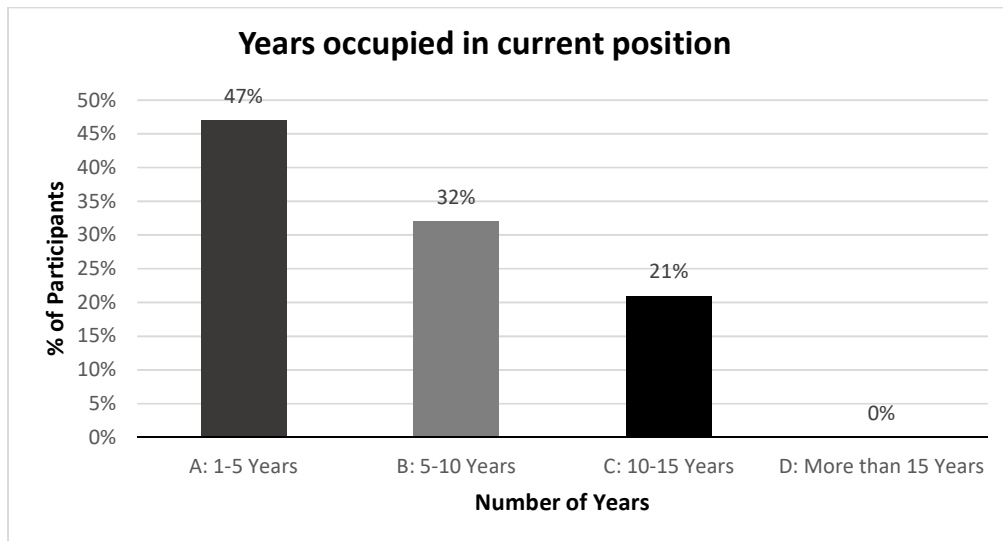


Figure 4-2: Number of years occupied in current position (Question A2).

The findings in this research revealed that a majority of participants were occupied in their position for less than five years as indicated in Figure 4-2 above. This is an indication that careers within the environmental field are interlinked and professionals are always moving around. The fact that they had been occupied in the current position for less than five years is not to say they are less informed or less experienced with waste pickers and the need to integrate them. Some participants were working in other departments before they joined their current institution as indicated by Participant 14 who stated that *“before I joined my current employer three and a half years ago, I was at the national department, and I worked there for 15 years in the waste management unit”*. While some participants indicated that they have been promoted within the same department to a different position as was the case for Participants 9 and 19 respectively: *“Previously I was responsible for waste education and awareness, then I got promoted to policies*

and projects” and Participant 19 stated that “*I have only occupied this current position for almost two years now, but I was reporting to the previous manager who left the department and was in the same position that I now occupy*”. Participant 10 also stated that “*In the past four years, I was responsible for refuse removal, then I was moved to garden site and transfer station to which I’m responsible for coordination of waste operations*”.

The participants in this study came from different backgrounds within the environmental and waste management field. They were well experienced and in one way or the other, they had encountered with waste pickers during their work and were familiar with the waste picker integration phenomenon. Participant 15 who represented a BBC indicated that “*before I became a BBC operator at this facility, I was a waste picker myself for four years and I was a member of our cooperative, so I am very experienced with waste pickers and their struggle.... this is my third year as a BBC operator*”. This question was necessary for this research study in order to strengthen the credibility of this research as the participants’ views are shaped by their working experience and their current position they occupy.

4.2.1.3 Highest level of qualification (Question A3)

The last question under this section (Question A3), was presented in both open and close-ended format. Participants were required to state their highest level of qualification, and further provide details of their qualifications. The findings as indicated in Figure 4-3 revealed that, the majority of 89% (17 of 19) of the participants obtained a formal qualification, and only few participants of 11% (2 of 19) did not have a formal qualification. A total of 68% (13 of 19) has indicated in Figure 4-3 that they have obtained a *B: Diploma, Bachelor of Science (BSc) or Bachelor of Art (BA) degrees*. Some participants (9 of 13) further elaborated that they also held an Honours degree (Hons) and/or *Baccalaureus Technologiae (B-Tech)* degree in their respective disciplines. In general, the degrees they held, included degrees in Environmental Health, Environmental Management, Environmental Science, Environmental Planning and Development, Public Management, and Sport Management. A majority of the degrees are related to waste management. Only two degrees (Sport Management and Public Management) were not directly related to waste management. A total of 21% (4 of 19) of the participants held a Master’s (*C: MSc or/ M-Tech/ M*) degree in Project Management (2 of 4), Master’s degree in Development Planning (1 of 4), and Master of Environmental Management with Waste Management (1 of 4). Some participants 11% (2 of 19) have indicated that they did not obtain any formal tertiary qualification, and further indicated that they held Grade 10 and Grade 11 of High School, respectively. No participant held a *D: Doctor of Philosophy (Ph.D.)* degree.

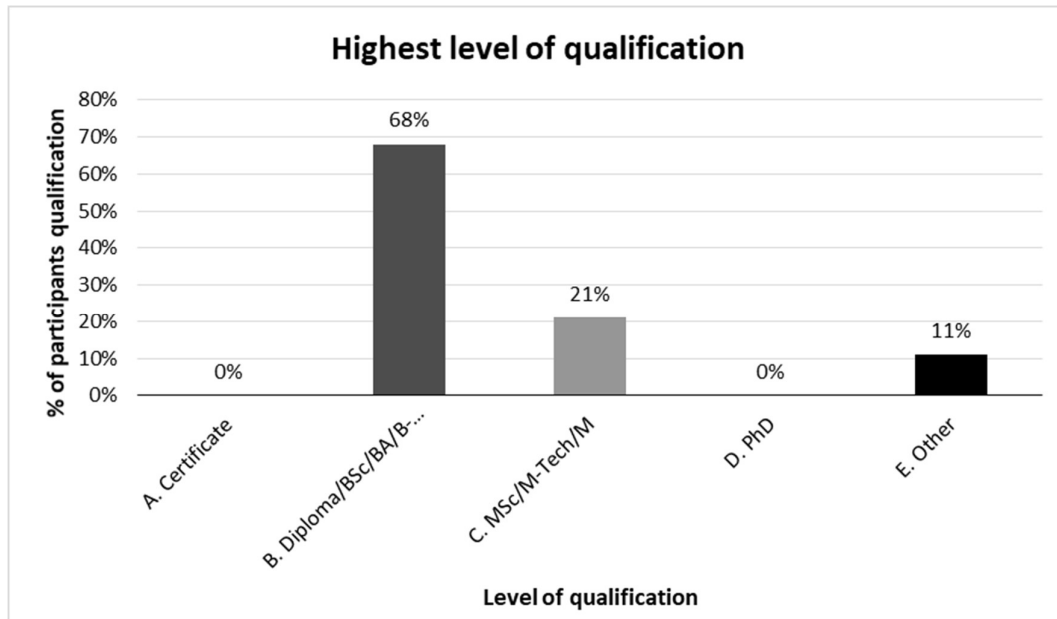


Figure 4-3: Highest level of qualification of participants (Question A3).

With the majority of participants 89% (17 of 19) with a formal qualification, this suggests that participants in this study had basic educational background that enabled them to understand their respective functions within the waste management and recycling sector and were able to give their clear view on the integration of waste pickers in the formal waste management sector. With regards to participants without any formal qualification 11% (2 of 19) as presented in Figure 4-3 above, their work experience in the management of waste supplemented their views, this was the case with Participant 15 in section 4.2.1.2 above.

With regards to participants with formal qualifications outside the environmental disciplines, Participant 12 held a Diploma in Sport Management, however they had been occupied in their position of Director of a BBC for more than five years. While Participant 16 came from a Public Administration background, however, they had been in the waste management department for more than 10 years in policy development and planning. Therefore, the work experience of Participants 12 and 16 in the waste management sector, qualified them to provide credible perspectives on the subject of waste picker integration.

The findings further revealed that key role players in the formal waste management sector are within multi-disciplines of professions within the environmental and management field. The diversification of the key role players in this research study will allow multiple perspectives in the subject of waste picker integration and this will be discussed later in this chapter. The information gathered in this section of the questionnaire further highlighted the importance of multi-sectoral collaboration and coordination between sectors and departments within the waste sector, so as

to achieve an integrated approach towards integrating waste pickers in the formal waste management sector.

4.3 Views of role players on the integration of waste pickers in the formal waste sector (Questions B1 to D3)

The discussion in this section is the findings from Section B to Section D of the questionnaire and is guided by the themes and their subsequent sub-themes derived from the responses as presented in Table 4-1 below.

Table 4-1: Themes and contributing questions from the questionnaire

Themes	Contributing question on the questionnaire	
<p>Theme 1: The role of waste pickers in the formal waste sector</p> <p>Sub-theme 1.1: Diverting waste away from landfill.</p>	B1	What is your understanding of the role of waste pickers in the formal waste management sector? Kindly elaborate on your understanding.
<p>Theme 2: Defining the integration</p>	B2	What is your understanding of the integration of waste pickers in the formal waste management sector? Kindly elaborate on your reasoning for your answer.
<p>Theme 3: Approaches to integration</p>	B3	What approaches/plans have your institution implemented towards the integration of waste pickers in the formal waste management sector?
	B4	Kindly reflect on the progress made by your institution in achieving waste picker integration into your waste management system?
<p>Theme 4: Waste Picker Integration Guideline of South Africa</p>	C1	How familiar are you with the Waste Pickers Integration Guideline for South Africa?
	C2	In your opinion, how is Section H of the waste picker integration Guideline aligned to what is currently implemented by your institution?
	C3	In your opinion, how has the waste picker integration Guideline assisted your institution in facilitating the integration of waste pickers in the formal waste management system?
<p>Theme 5: Perceived opportunities and Challenges</p> <p>Sub-theme:</p> <p>5.1 Challenges</p> <p>5.2 Opportunities</p> <p>5.3 Recommendations</p>	D1	What challenges have you experienced or anticipate with the integration process of waste pickers? Kindly elaborate on your perspective.
	D2	What opportunities are there for your institution with integrating waste pickers? Kindly elaborate on your reasoning.
	D3	What support or interventions would you recommend being implemented to achieve or maximize the process of integration?

4.3.1 The role of waste pickers in the formal waste sector (Question B1)

Question B1 in Section B of the questionnaire required participants to explain their understanding of the role of waste pickers in the formal waste sector. Theme 1 derived from Question B1. This question was necessary, in that, the researcher aimed to understand how role players perceive the role of waste pickers in the formal waste sector. Question B1 was crucial in achieving the first objective in this research study. Participants responded to this question by firstly describing what they understood waste pickers to be, followed by an explanation of what their activities entail, then lastly, they explained their role in the waste management sector.

The findings revealed that, the majority of 53% (10 of 19) of the participants mentioned the “diversion of waste away from the landfill” as the main role waste pickers are playing in the formal waste management sector. The diversion describes the act of redirecting waste from landfills through implementation of the waste management hierarchy. Aside from the diversion of waste away from landfill as the main role of waste pickers, other participants (6 of 19) sited separation at source as the main role of waste pickers. Some participants stated that waste pickers assist municipalities in reducing costs associated waste removal. Waste pickers were also cited as playing a crucial role in daily street cleansing and raising awareness. The “diversion of waste away from landfill” was thus identified as a sub-theme to the role of waste pickers in the formal waste sector. The discussion below will be guided by the sub-theme.

4.3.1.1 Diversion of waste away from landfill

Participant 13 described waste pickers and their role as “...*individuals trying to make a living out of picking waste from various sources, while saving the environment. Waste pickers play a very important role, these waste pickers are doing a big chunk on diverting the waste, saving the municipality. They also assist the BBC a lot by selling waste to them*”. Participant 17 responded by saying “*waste pickers serve as an auxiliary team to formal waste management institutions such as PIKITUP*”, while Participant 3 added that “*waste pickers serve as the base for collection and supply of raw material to the formal sector. They also enhance achievement of high waste collection rate, and also reduce the impact of waste on the environment*”. Other participants (P1, P11 and P15), highlighted by stating that waste pickers help reduce recyclables that goes to the landfill site, in turn this prolong the lifespan of the landfill site. Furthermore, municipalities are able to achieve waste minimisation targets set in the NWMS (P10, P12 and 16). Participant 7 shared the same thoughts stating that waste pickers assist the municipalities in offering the service of waste collection through their work of retrieving millions of waste that would have been dumped into the landfill. While Participants 6, 14 and 18 added that waste pickers indirectly raise awareness, in that while pushing their trollies, they send a message to the community about

keeping the environment clean, and that people can make a living out of collecting waste. They further added that municipalities' cost for waste collection is minimised, and in turn the environment is kept clean. This is also supported by some authors in literature including Samson (2020:2) and Godfrey *et al.* (2016:1), in Chapter One section 1.1.3 of this dissertation. Participant 12 also mentioned that at their landfill site, waste pickers were able to reduce waste to the landfill site by 15%.

4.3.2 Defining the integration (Question B2)

In this section of the questionnaire, participants were required to explain their understanding of the integration of waste pickers in the formal waste management sector. Theme 2 was pre-determined in the questionnaire and serve as the base for this research study. The researcher required participants to define waste picker integration according to the way they understood it. The researcher understood that this question would build upon the forthcoming questions in the questionnaire which aimed to conceptualise the integration of waste pickers in the formal waste management sector.

In their responses, Participant 10 defined integration of waste pickers in the formal waste sector as *“Integration of waste pickers into the formal waste management sector, is the formal acknowledgement, inclusion and incorporation of the waste picker’s activities into the formal waste management cycle. Integration would mean municipalities and those involved in rendering formal waste management services would have to incorporate waste minimisation and recycling activities carried out by these waste pickers into their formal structure. In this way, waste pickers will not only receive acknowledgement of the contributions they make but will also receive support in the form of Personal Protective Equipment (PPE), health and safety, trainings and other programmes beneficial to assist them grow in the sector they are in”*. While Participant 9 explained that integration for them meant *“recognition and empowering the waste pickers, ensuring that they are provided with the relevant tool of trade, they are recognised in the value chain of waste management, they can get incentive for what they have recovered as they are saving the municipalities transportation cost and lastly all waste pickers need to be registered on the database of the municipalities for future planning and resource allocation”*.

Participant 6 emphasised the need to correct misconceptions of waste pickers for integration to be successful by stating that *“It’s about knowing who they are and clearly defining their role in the waste management value chain. Waste pickers are always associated with homeless people and criminal activities, so we must clearly define who waste pickers are. Once we know who they are and their role, it would make it easy to integrate them into the formal waste management value”*.

Participant 6 further explained by saying *“this could mean forming them into well organised groups (cooperatives), providing them with tools of trade i.e., trolleys, providing training, sorting facilities with storages, and also introducing them to the communities where they collect recyclables. Lastly, bringing in the private sector (off takers) to assist waste pickers either with transportation or sorting facilities and to negotiate with them to pay the waste pickers decent rates of the recyclables”*.

Similarly, Participant 1 was of the view that waste picker integration, if implemented correctly, could contribute to achieving South Africa’s objective of job creation by stating that... *“integration of waste pickers was done with an intention to speed up the process of having less waste being disposed of into the landfill site and apart from that, the intention was to create employment opportunities for our fellow South Africans”*. Participant 5 further added to the notion highlighting that waste pickers should be part of the waste value chain in the waste management sector. Other participants were of the view that since waste pickers are involved in separation at source (S@S), the integration would create a favourable working environment where waste pickers would have access to the waste which would have been already partially separated by residents or businesses which would then eliminate separating waste at street curbs. This would increase the efficiency of waste pickers to move from one point to another swiftly (P4 and P15).

Through the integration of waste pickers to the formal waste management sector, the formal sector, more especially municipalities, would be able to provide storage facilities or BBCs within the area in which they operate to assist waste pickers with less travel distance (P15). Participant 19 highlighted that *“integration will provide an opportunity to work together and find common ground, finding a formula that would work”*. Participant 15 further demonstrated by stating that *“integration will invite developing collaboration ventures with businesses, waste pickers and government”*. The views of Participant 17 were that waste picker integration meant formally recognising them, and as such, waste pickers should be provided with the same opportunities as the formal waste sector, this would mean they too would have to be protected and regulated by the same waste legislation. Through the integration, waste pickers would also be registered, trained, and provided with the necessary skills to perform their role in a manner that protects their health and safety. Participants 2, 8 and 18 share the same sentiments.

In giving an alternative view, Participants 13 explained that *“we will recognise that they want to still operate independently. Integration will ensure that policies such as municipal by-laws do not prohibit what they are doing but facilitate their activities. The integration will also clarify waste picker’s role in terms of understanding that they need to work and be guided by municipal policies and by-laws such as road traffic laws. And that they can’t be allowed anywhere in the working site*

of a landfill”. Participant 16 concurred with this view and argued that *“integration is not like formalization, formalization means they have to work with certain terms and conditions, for example, working hours. Whereas integration means that they continue to operate the way they do but will be part of the formal waste management system with their activity receiving support”*.

The study participants did however, voice concerns over the prospects of waste pickers being subjected to harassment because of the stigmatization they face. For them, this meant that integration of waste pickers would present an opportunity for waste pickers and the role players to address social challenges experienced by waste pickers. In their view they stated that *“the integration aims to formalise waste pickers who face difficult conditions such as being discriminated, harassed, manipulated, exploited, et cetera. Furthermore, the integration provides the waste pickers with a platform to address the challenges they face on daily basis within various waste management streams, being at municipal or businesses level”* (P3). The views of Participant 3 links with the discussion of waste pickers and the stigma attached to their role in Chapter Two section 2.1.4. The stigma associated with waste picking affect the likelihood of waste pickers becoming stakeholders in the formal waste sector.

4.3.3 Approaches to integration of waste pickers (Question B3-B4)

In this study, participants were provided with an opportunity to reflect on the approaches or plans that their institutions have implemented towards integrating waste pickers and to reflect on the progress of those approaches or plans. Theme 3 was built from Questions B3 and B4, and sought to address the first research objective, which aim to investigate different views of role players on the integration of waste pickers in the formal waste management sector. Theme 3 will guide the discussion of the findings of the integration progress at different institutions represented by different stakeholders which mainly comprised of municipalities (both metros and local) and BBCs.

Upon reflecting on the integration approaches and the progress thereof, the majority of the participants (63%; 12 of 19) cited the registration of waste pickers into their institutional database as an approach to integrate waste pickers in their formal waste management systems. Participants indicated that the registration of waste pickers in their database would pave way for a solid relationship between role players (P1, P2, P5, P8, and P17). Participant 10 indicated that *“the integration of waste pickers is currently happening at a small scale. Thus far, the City only managed to establish a formal database of waste pickers working in various waste treatment facilities of the City. As part of facilitating good working relations with the waste pickers on each site, the City has established working committees for each site, to assist in the ease of coordination and communication”*. In concurring with the view that municipalities can play a

leading role in waste picker integration, Participant 13 stated that in their municipality *“there is not much that has been done, however, there is work in progress, and we are in the process of reviewing our IWMP as well as our by-laws which we have appointed a private environmental consulting company for that. The review will make provisions to allow waste pickers activities within our by-laws and other policies”*. Participant 8 indicated that it is a slow progress, but a progressive one by further stating that *“...the continuous engagement on the existing platforms with the waste pickers is progress towards the integration”*. Participant 19 indicated that, *“Our municipality has registered waste pickers on a database, doing this assist us in knowing how many of them operate within our area, and we will better plan for programs such as providing them with training and PPE”*.

Participant 3 mentioned that in their municipality, they have commenced with waste picker integration program since in September in the year 2020. The municipal council approved a proposal to enter into a Memorandum of Agreement (MOA) with an NGO to formalise waste recycling program within the municipality. Participant 3 further stated that, a total of 177 waste pickers were registered on their database and of the 177 who were registered, 56 were granted permission to operate a BBC in one area within the municipal jurisdiction. While a total of 121 waste pickers were registered in different areas within the municipality to reclaim waste at the municipal landfill sites. Further, DFFE provided the registered waste pickers with PPE (gloves, overalls, reflectors, identity cards, and face masks). Waste pickers were also offered a stipend of R950 each as part of the COVID-19 lockdown regulations relief grant (P3). While Participant 9 indicated that in their municipality, waste pickers were enrolled into the waste picker empowerment program in which they were provided with identification cards as part of the registration, offered health and safety training, and offered a stipend of R 1400 per month for three months. Participant 5 indicated that they were holding regular forum meetings with waste pickers and other stakeholder, however further argued that *“getting them to attend a meeting was not easy as most of them just wanted to work”*.

Responding to Question B4 which was relating to the progress made by institutions towards integrating waste pickers, Participant 19 concurred with the views of Participant 5 adding that *“registering waste pickers is very difficult, they are just difficult to work with sometimes, and they honestly want to govern themselves, so this really makes the progress very slow”*. Participant 6 indicated that, in their municipality, they have registered 1600 waste pickers in only two regions within their municipal jurisdiction. The municipality has embarked on a program to identify illegal sorting facilities in order to eradicate illegal sorting facilities which contributed to illegal land occupation within the City. A total of 207 illegal sorting facilities were identified during this exercise. Participant 6 further indicated that *“the City has managed to formalize some of the waste*

pickers into cooperatives, currently there are two beneficiaries from waste pickers' cooperatives that are running our BBCs. As part of the COVID-19 relief plan, the City together with the national department (DFFE) provided over 5000 food parcels for waste pickers". Participant 11 indicated that in their municipality, the City in partnership with National Treasury, embarked on a process of developing a waste pickers integration model and is not yet finalized. On the contrary, Participant 11 further stated that *"the integration process is not yet implemented"*. While Participant 10 who is representing the same municipality as Participant (11) responding to Question B4, stated that *"through the establishment of working committees in each site, there is improved communication and conveyance of key information to the waste pickers working in disposal facilities. Waste pickers are also offered a platform to raise their concerns regarding their working conditions, how the City can assist in improving and addressing some of the challenges they experience on a day-to-day basis, as well as general improvements on how we, as a collective, achieve the key objective of diverting as much waste material from being landfilled"*.

Participant 12 is a member of a cooperative managing a BBC and responded to Question B3 by mentioning that *"so far we provided them with transport to collect their waste from where they are sorting it, we are also working with PETCO to assist with providing them with trollies. Further we have a relationship with the traffic department who guides them and allow them to push their trollies on the road"*. Participant 15 who is also an operator of a BBC indicated that, aside from registering the waste pickers, they have collaborations with companies such as Amalgamated Beverage Industries (ABI) who assist with providing PPE and trollies. They were also communicating with community leaders or body cooperate to allow waste pickers to collect waste within the residential areas.

4.3.4 Waste Pickers Integration Guideline of South Africa (Questions C1-C3)

The Waste Picker Integration Guideline of South Africa has been discussed in Chapter Two. This section presents insight into the extent to which role players in the formal waste sector understand the Guideline and can implement it.

Theme 4 derived from the questionnaire and was presented as Questions C1, C2, and C3 (see Table 4-1). The responses to questions under this theme address the first research objective which aimed to investigate different views of role players on the integration of waste pickers in the formal waste management sector. Question C1 was a close-ended question which required participants to choose from pre-specified options on how familiar they were with the Integration Guideline of South Africa. The options to choose from comprised of four options: A – Not familiar; B – Slightly familiar; C – Moderately familiar; and D – Very familiar. Participants were explained the difference between slightly and moderately familiar during the interviews. Slightly familiar

meant that participants have little knowledge about the guideline, while moderately familiar meant participants had reasonable, but not excessive knowledge about the guideline. Question C2 and C3 were open-ended questions. Question C2 was based on Section H of the Guideline as illustrated in Figure 2-3 in Chapter Two of this dissertation and aimed to seek opinions of participants on the alignment of the currently implemented approaches and plans towards integration of waste pickers in the formal waste sector. Question C3 sought to investigate how the Guideline assisted in facilitating the integration process in their respective institutions. The results under Theme 4 will be presented and discussed in two subsections, the first discussion will focus on Question C1, and then Questions C2 and C3 will be discussed simultaneously.

4.3.4.1 Familiarity of participants with the Waste Picker Integration Guideline of South Africa? (Question C1)

The findings illustrated in Figure 4-4 below revealed that 21% (4 of 19) of participants were not familiar with the Waste Picker Integration Guideline of South Africa, five percent (1 of 19) reported to be slightly familiar, while 27% (5 of 19) were moderately familiar, and 47% (9 of 19) indicated that they were very familiar with the Guideline. These findings indicate that most role players in the formal waste management sector are aware of the existence of the Guideline. Of the 21% (4 of 19) who indicated that they were not familiar with the Guideline, they indicated further that not only had they never heard about it, they also did not know the purpose of the Waste Picker Integration Guideline of South Africa. The researcher then explained briefly what is contained in the Guideline but focused more on Section H of the guideline which described the seven steps to be implemented to effectively integrate waste pickers. This was crucial as the subsequent Questions C2 and C3 relied on the participants' knowledge of the Guideline in question.

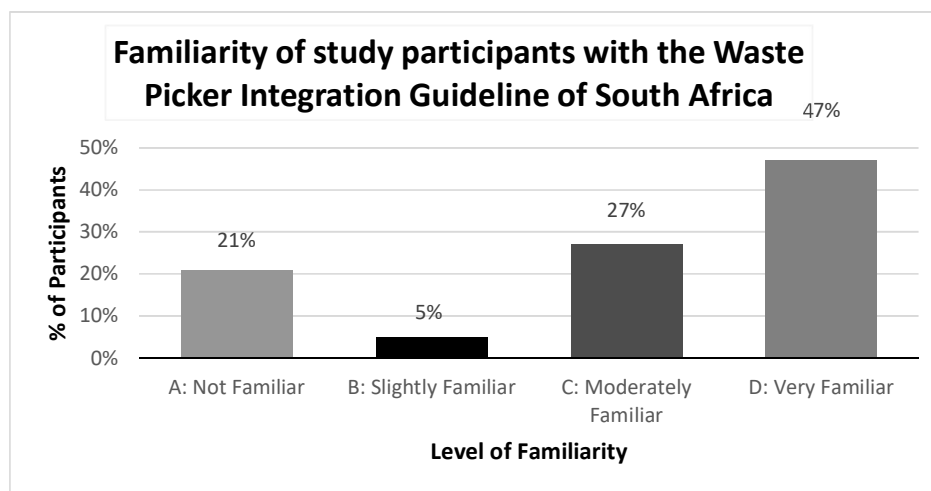


Figure 4-4: Familiarity of study participants with the Waste Picker Integration Guideline of South Africa (Question C1).

4.3.4.2 Institutions alignment in implementing the Waste Picker Integration Guideline of South Africa (Questions C2-C3)

The study further sought to establish the extent to which at local government level, the integration approach and plans of municipalities aligns with the Waste Picker Integration Guideline of South Africa. Participant 12 explains the alignment by stating that *“when we started, the City did not have a clear picture of how they would do the integration, so we developed our own plan which focuses more on awareness and educating the community on S@S. We do not have forums with waste pickers and other stakeholders. We only meet with other stakeholders on ad hoc basis, only when there’s a need”*. Participant 16 on the other hand stated that *“our plan was developed using the national Guideline since we were part of the team that developed the national Guideline, it was easy for us to align ours with the national one”*. While Participant 10 who represented the same institution as Participant 16, differed with the facts stated by Participant (16) stating that *“the waste integration is taking place, forums and working committees are established and fully functional, however, during the establishment of these committees, the City did not follow set guidelines as stipulated above, since they are new”*. Participant 11 who was also from the same institution as Participants 10, 12, and 16, simply stated *“not aligned”*. This was further supported by the views of Participant 14 who stated that *“the guidelines were not followed since they are new”*.

For the most part, most respondents from municipalities conceded their plans on waste picker integration were not aligned with the National Integration Guideline for various reasons. The conflicting views of different participants from the same institution, reflect lack of proper communication among employees or sections within departments in the same institutions. Participant 12 who represented a BBC emphasised that their integration plans were not aligned with the national Guideline, however insisted that, even though that was the case, their plans were working *“... because waste that goes to the landfill site is reduced by 15%”* (P12).

At a different municipality, according to Participant 4 their municipality was implementing the integration of waste pickers according to Section H of the guideline. Participant 4 further stated that *“the City had already started with their integration Guideline, which was put on hold to allow the national Guideline to take precedence of the Guideline developed”*. This statement was further supported by Participant 6 who was also from the same municipality, iterated that *“the City has endorsed some of the sections of the Guideline and has taken an initiative to customise it to cater for issues of waste pickers in our municipality alone. The Guideline is of great importance, and it is helpful in facilitating waste picker integration programme”*. Participant 9 endorsed the views of Participants 4 and 6 by stating that *“honestly the City had already started the process of integration, most intervention were already implemented before the development of the*

guidelines. The Guideline now assists as a tool for referencing the work that the City is doing". Participant 9 further supported the views by highlighting that "the City was one of the key stakeholders in developing the guidelines, yes, I do see alignment as the City has developed an internal team which works with waste pickers, any plans that the City wants to implement, the waste pickers are consulted. The City has programmes that partner with waste pickers on waste management. There are some of the waste management facilities that are operated by waste pickers. The City has recognised and acknowledged the importance of waste pickers. All the projects that are implemented, waste pickers are consulted to ensure their livelihood is not compromised".

The view of Participant 5 from the same municipality indicated that *"the Guideline has planned out the integration with recommendations on how to implement them. The City was the one that influenced more on the Guideline, used a lot of its past knowledge to help in the development of the Guideline".*

Participants highlighted that even though their institutions attempted to align their WPIPs with the national Guideline, the process has not been easy, and these facts were supported by Participant 15 who stated that *"municipality people do not share some information with us, they really do not support us as a BBC".* Participant 18 also share the same sentiment and concluded by saying *"...because talk is cheap".*

4.3.5 Perceived opportunities and challenges (Questions D1-D3)

This study further sought to explore what the participants identify as the challenges associated with the waste picker integration process and to further reflect on the opportunities waste picker integration presents while providing recommendations that would maximize the integration of waste pickers in the formal waste management sector. The discussion in this section is guided by the five themes gathered from Questions D1 to D3 in Section D of the questionnaire as presented in Table 4-1 above. Question D1 and D2 of the questionnaire sought to address the second research objective of this research study which is to determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector. Question D3 sought to provide recommendations for a way forward, and results for this question will contribute to the discussion in Chapter Five. The findings are presented and discussed according to the sub-themes. Key factors mentioned by respondents are grouped and discussed under each sub-theme.

4.3.5.1 Challenges of waste picker integration (Question D1)

The study findings pointed to three key and fundamental challenges in waste picker integration in the formal waste management sector.

4.3.5.1.1 Undocumented waste pickers

The findings revealed that formally registering waste pickers on the database system posed serious constraints as a result of most waste pickers being illegal immigrants, and do not have legal documents. Participant 1 stated that *“We are having more of the foreign nationals rather than South African Citizens on the project which makes it more difficult to recognize and register them because they don’t have proof of identification”*. Participant 4 further added to this by stating that *“For any programs or projects to be funded by government, it requires that those to be funded for service rendered must produce legal documentation to realise funding”*. This was also supported by Participant 9 who added by saying *“when the City receives funding to assist them, it comes with condition that requires waste pickers to have documents for identification and if they don’t have automatically the systems kicks them out to access those benefits”*.

Participant 5 commented that the issue of undocumented migrants who resort to waste picking as a means of survival was exacerbated by the fact that their trade is regarded as not being scarce. According to Participant 7, the Constitution and the law of the country is not flexible to accommodate the foreign nationals, since about 65% of the foreign waste pickers are excluded from integration.

4.3.5.1.2 Availability of land

Participants raised concerns regarding the unavailability of land to be utilised for sorting of waste which then result in illegal invasion of land by waste pickers. Participant 4 raised their concerns by stating that *“...waste pickers use any un-occupied land to sort the recyclables that sell and those that might not be selling. Due to different reasons, the area is left with recyclables that are not of value, thus leading to pollution taking place”*. Participant 15 alluded to the concern of availability of land stating that *“... they expect us to give them the land to do their sorting, where would we get the land? There are processes to be followed to acquire the land. We allowed them to do their sorting at some of our landfill sites, but the challenge is that we now need to provide toilets and potable water as well”*.

Participant 14 indicated that in their municipality, the Environmental Health Department which has been dealing with numerous complaints from the community regarding nuisance emanating from the illegally occupied land by waste pickers. The nuisance included flying waste materials,

polluted water being discarded on the street, bad odours, and infestation of rodents and pests. Participant 2 argued that *“unfortunately land for such activities is very scarce and requires special consent from the Town Planning Department”*.

4.3.5.1.3 Resistance from waste pickers

The study also revealed that not all waste pickers are keen on integration. Participant 10 anticipates that *“they may be some resistance on the ground as most waste pickers are comfortable working independently and without some form of monitoring. This may be attributed by their immigration status as majority of these waste pickers are from foreign nationals and do not have proper identity documentation. There is, however, a fraction of the waste pickers, who, during such engagements, expect some form of incentives in the form of stipends and other benefits, to be compensated for the work they do”*. Participant 17 added by saying *“there is a reluctance on the side of waste pickers to align themselves with the guidelines...a common response being the freedom to conduct their work freely at their own time without restrictions”*. Some participants cited lack of trust and information by waste pickers as the main barrier towards waste picker integration. Participant 8 pointed out that there should be clear roles and responsibilities between the local authorities and waste pickers. Then further emphasised on compliance with waste management by-laws stating that *“...there is currently challenges with regulating waste pickers since they conduct their activities anywhere and anyhow...integrating individuals is more challenging than when they are members of cooperatives”*. Participant 19 concluded by saying *“there are lot of challenges that need planning and further discussion such as how to integrate informal individuals to a moving system with targets, re-looking at policies such as Municipal Finance Management Act (MFMA) which manages funding and financing/remunerations”*.

Other factors that were mentioned were financial resources, policy development, political interference, and elements of criminality. Participant 18 stressed that waste picking is associated with criminality as a result of the stigma. However, Participant 15 claimed that *“there are people who want to posture as the representatives of the waste pickers and want to hijack the process for their politically motivated aims”*. Participant 16 concurred with the statement stating that *“some waste pickers are fronting as waste pickers while they do their illegal activities on the side...we had such cases at our landfill sites”*

4.3.5.2 Opportunities associated with waste picker integration (Question D2)

The results revealed that the participants' perception was that there is great opportunity in integrating waste pickers in the formal waste management sector. Participant 6 expressed that

“integration of waste picker will ensure an improvement in waste minimisation, improved separation at source participation thereby reducing waste going to the landfill site. The lifespan of the landfills will be prolonged. The level of cleanliness in the city will improve and well live in a clean environment with little or no health risks”. Participant 2, 4 and 18 who represented different municipalities were also of the view that the integration of waste pickers will result in less recyclables that go to the landfill site, less volumes of waste requiring transport, and ultimately saving municipalities cost and landfill airspace. Participant 1 added by saying *“I think it will enable us to speed up the process of reaching zero waste being disposed of into our landfill sites”.* Participant 5 expressed their optimism by stating that *“integration will provide decent work, instil their dignity...they will also grow gradually from waste picker to be recyclers at another level. Some will operate their own BBCs”.*

“The biggest challenge is that they are robbed by other waste recyclers in terms of scaling and pricing. So, integrating them will give them a united voice and the City intends to encourage them to form cooperatives so that they can collect more waste and make reasonable income when they operate as the formal business” (P7). This was further demonstrated by Participant 9 who indicated that *“...also there is room for waste pickers to form cooperatives or SMME’s to participate in the whole value chain of waste management, from collection to disposal”.*

4.3.5.3 Recommendations for waste picker integration (Question D3)

In this section, participants were required to provide recommendations they suggest should be implemented to achieve or maximise the waste picker integration process.

According to Participant 4 integration of waste pickers can be achieved through formalising waste pickers into cooperatives rather than individual waste pickers. Participant 4 further supported this by stating that *“for local government to integrate waste pickers into their system, it is better to work with waste cooperatives than an individual to ensure that there is accountability in the service that municipality is required to provide”.*

Participant 5 was of the view that, stakeholder-partnerships and communication must be strengthened as this will result in commitment from all role players including the waste pickers and their representatives. Participant 12 perceived that *“metro police should be roped in; the community should be educated to welcome waste pickers into their homes and know which people are to be welcomed”.* The Department of Home Affairs was mentioned by most participants as the key role player in assisting foreign waste pickers to acquire residency.

Furthermore, support from national government departments was regarded as crucial by Participants 3, 6, 7 and 15. Participant 9 further indicated that *“we need funding from government*

to assist in construction of BBCs, provision of tools such as trolleys and PPE to make them identifiable, and training provision on business and environmental issues". Participants 8, 10, 11, 13 and 16 were also of the similar view. Participant 15 emphasised the need for recycling and the recycling economy to receive massive national awareness similar to those of Human Immunodeficiency Virus (HIV). Participant 17 highlighted the gap between policy development and the implementation of those policies and further explained that national departments should invest in bridging the gap by strengthening policy reviews and follow-ups on the implementation of those policies.

4.4 Discussion of findings

This section will present the interpretation of the findings and the literature reviewed in the previous chapters. The discussion will be structured according to the sections in the questionnaire.

4.4.1 Background information of participants

The findings above highlight the diverseness of professionals within the waste management sector. Formal qualification supplemented by work experience play key roles in the perspectives that role players had on the integration of waste pickers. It emerged that the role players from municipalities all obtained a formal qualification even though some qualifications were not directly related to environmental or waste management field. While it became evident from the findings that some participants who represented BBCs did not obtain a formal qualification. This finding indicates that work experience of participants was a more crucial factor in capturing credible views of role players. Overall, participants in this research study were well-informed on waste management matters, the fact that participants obtained formal qualifications or not did not hinder their ability to articulate their views since they were well-experience in the waste management field and waste pickers. Since role players came from different educational backgrounds, this highlighted the importance of multi-sectoral coordination as was the case with some respondents who came from a public administration, and development planning background. Their views were more focused on the policy development and planning aspects which included review of the by-laws, IWMPs, and provision for funding which will cater for the integration process. Whereas participants who had an Environmental Health and Management background gave their views more on awareness and education; and health and safety issues such as provision of PPE and trolleys to the waste pickers.

4.4.2 Role players defining waste picker integration

Waste picker integration in the formal waste management sector has been defined by role players as the formal inclusion of waste pickers in the formal waste management sector. Role players understood that waste pickers' activities should be incorporated in the waste management systems. The incorporation has been described as waste pickers receiving full support from municipalities and those involved in the waste management and recycling industry in the form of registration, PPE, training, funding, and other programmes beneficial in assisting them to grow. This formal recognition will see waste pickers being incentivized adequately for the work they have done which includes the amount of waste material collected, sorting and transportation costs. This view is similar to the work of the KKPKP in Pune India as reported by Chikarmane (2012:1) as described earlier in Chapter Two. Role players in their definition of waste picker integration highlighted the need to organise waste pickers into cooperatives i.e., *"forming them into well organised groups"* (P6). Role players perceive that registering waste pickers on the municipalities' database will ensure that adequate communication and support can be achieved, as compared to unregistered individual waste pickers. Seemingly, this view is common to role players in other provinces outside the Gauteng province, this view resonated with the findings in the study conducted by Guya (2019) in the Free State Province. In her study, Guya (2019:94) revealed that a participant understood that whatever the definition of waste picker integration was, it did not matter, since according to the participant, the municipalities will only engage with waste pickers who are registered under cooperatives. Therefore, this meant that according to the respondent, the integration of waste pickers is a process where municipalities and industry recognises only formalised entities (cooperatives) to offer support. This viewpoint is similar to the approaches implemented in other international countries such as Brazil and India where cooperatives such as ASMARE and KKPKP respectively, have shown to be effective (Dias, 2011:2; Chikarmane, 2012:2).

It was clear from the data collected that role players understand that waste pickers still want to continue working independently without any conditions, however, they want to be acknowledged formally and benefit from the government and industry in whatever way, without losing their income. According to DEFF & DSI (2020:27), waste picker integration means recycling system that is formally planned and seeks to improve the present waste pickers' role. The definition also emphasises that the integration should build on the strength of waste pickers' existing system for collection and valuing of waste material, and waste pickers should be key stakeholders in the design, implementation, evaluation, and review of the integration system.

It is apparent from the findings that, role players have different views on what integration mean, beyond what has been stated in policy documents. Even in the absence of a clear common

definition of waste picker integration, it is evident from the data collected that, role players have their own interpretation of what integration of waste pickers mean and what benefits are there for waste pickers and the formal waste sector.

4.4.3 Approaches to integration

The section above has shown that role players have differing views on what integration mean, and this highlights the complexities of the concept of integration. However, role players have developed their own approaches towards achieving integrating waste pickers in their formal waste management systems. Two main integration approaches emerged from the data collected, and the approaches includes: integration of waste pickers through registration of waste pickers in the database of institutions; and integration through policy shift. These approaches are discussed below.

4.4.3.1 Integration through registration on the institutional database

As discussed in the previous section earlier, role players pointed out the formal registration of waste pickers on their institutional database as the main approach that has been implemented within their respective institutions. This approach has been regarded as one that will facilitate in building a solid relationship between the formal and informal waste management sector. Meanwhile the integration process is currently taking place at a very slow pace, institutions in the formal sector have already established committees and forums, in attempts to build communication channels with waste pickers. Through these platforms, institutions were able to determine the number of waste pickers within their areas, and this assisted in better planning for programs which will result in training and provision of PPE. In one municipality it was mentioned that waste pickers were enrolled in the waste picker empowerment program and only those who were enrolled in the program received a stipend for three months. This type of approach has been labelled by Samson (2020b:197) as a charity approach. This approach has been profoundly associated with negative implications. Such charitable activities, even though they aimed to assist waste pickers, scholars Velis *et al.* (2012:60) and Samson (2020b:197) reported that these programs led to waste pickers feeling infantilised, disrespected, and deprecated, and further cited that, the approach is bandaging the problem and not dealing with the issue in the broader sense. Aside from these implications, programs that are developed without partnering with the beneficiaries often have high failure rates since programs turn to not address the key problem. For instance, the COJ S@S pilot project that was initiated by Pikitup showed to be unsuccessful (Sekhwela & Samson, 2020:35). In the pilot project, Pikitup contracted companies that collected separated waste material within residential suburbs, this led to waste pickers unable to have access to recyclables. WIEGO (2020) reported that, according to waste pickers, the four key

pillars of integration are: recognition as workers providing an environmental and public service, for which they should be remunerated for; inclusion in all current and future waste management systems; registration of all waste pickers in the central database regardless of their immigration status; and consultation on all decisions affecting their livelihoods.

Nonetheless, the registration of waste pickers could potentially strengthen the communication among municipalities, waste pickers and community members. The presence and role of waste pickers within the communities has not been communicated adequately and officially by the municipalities, community members only see waste pickers as recyclers but does not really understand their role in general (Guya, 2019:84).

4.4.3.2 Integration through cooperatives

Role players perceived that, integrating waste pickers who are part of a cooperative is easier than working with individual waste pickers. This approach, as described previously in Chapter Two, have been implemented successfully internationally in countries such as Brazil and India (Dias, 2011:2; Chikarmane, 2012:2). Integrating waste pickers through a cooperative is deemed viable for municipalities to legitimise their assistance towards waste pickers (Guya, 2019:98). Cooperatives are considered as pathways to transition waste pickers to the formal waste management sector through strengthening waste pickers' collective voice and representation. Role players emphasised communication as a key factor in integrating waste pickers, and alluded those cooperatives allow open communication lines between institutions and waste pickers. For instance, in the year 2020 the United Nations Industrial Development Organization (UNIDO) through working with stakeholders donated PPE to members of the SAWPA at some of the waste pickers working sites, as part of the COVID-19 relief initiatives (UNIDO, 2020). This initiative was successfully executed by accessing waste pickers through their cooperatives. While role players indicated that waste pickers can be effectively integrated through cooperatives, some role players, particularly those who represented a BBC who were members of cooperatives, argued that communication lines were almost non-existent between municipalities and BBC operated by cooperatives. Role players stated that municipalities were only in contact with members of cooperatives on ad hoc basis, and during those meetings, there is often not adequate time to address concerns from waste pickers, rather, the focus was often to communicate matters coming from the municipality. Contrary to this understanding, in South Africa, Godfrey *et al.* (2017:799) reported that many cooperatives were opportunistic and less effective since most of them do not conform to the standards of a definition of a cooperative. Waste pickers leave cooperatives because the terms and conditions of being under a cooperative resulted in a loss instead of an increase in income (Sekhwela, 2017:58).

4.4.3.2 Integration through policy shift

As discussed in Chapter Two, legislation that guide waste pickers integration in South Africa is limited and is not adequately explained. Therefore, institutions' approaches to waste picker integration are a prerogative of the institution and is depended on whether waste picker integration is prioritised in a form of inclusion in the Integrated Development Planning (IDP) and other strategic plans within the institutions. The data gathered indicates that currently the municipalities' policies do not directly address waste picker integration. Role players indicated that some of their institutions were in processes of amending their policies such as by-laws and IWMPs to address waste picker integration. The lack of inclusion of the WPIPs in the IWMPs indicates that waste picker integration may not be included in the IDP. It is important to note that, this study did not investigate further in to the IDPs of the institutions, however, participants indicated that their policies and strategic documents did not directly address waste picker integration, and this essentially meant that it would not form part of the KPIs. However, role players indicated that their institutions were in processes of addressing these gaps.

The NWMS of 2011 as the implementation strategy for the Waste Act, is aimed at promoting the waste hierarchy and circular economy. While South Africa has achieved recycling rates that are favourable compared to other countries as already stated in Chapter Two, the progress to diverting waste away from landfill has been limited, with large percentages of waste still continuing to be disposed of at the landfill sites (NWMS, 2020:29). The NWMS of 2011 has failed to adequately include strategies that seek to promote waste picker integration. The significant strategic shift from the NWMS 2011 to the NWMS 2020 has been addressing the role of waste pickers in the circular economy. The NWMS 2020 supports markets for source separated recyclables, this will bring a significant contribution in the diversion of waste away from the landfill sites. With that said, role players were not specific as to where exactly in the policies within their institutions will the shift occur. Role players only highlighted that the institutions were in processes of amending their by-laws and updating the IWMP, this presented as vague and gave an indication that integration was still discretionary.

4.4.3.3 Understanding of the Waste Picker Integration Guideline for South Africa

The Waste Picker Integration Guideline of South Africa was published in August of 2020 after a consultative process with relevant stakeholders within the waste management sector, including waste pickers and their cooperatives. The Guideline is an important document for municipalities since the majority of waste pickers operate within municipalities' jurisdictions, and where integration of waste pickers in the formal sector should take place. The result in this study indicates that, a large percentage (47%) of role players in this study were very familiar with the

Guideline, while, the remaining role players were either, not familiar slightly familiar or moderately familiar. However, those who were not familiar with the Guideline, they were aware of it but did not necessarily understand the content of the Guideline. It has emerged that, participants who were very familiar with the Guideline were either in management level or in policy development and were part of the stakeholder working group in the development of the guide.

Section H of the guide provides seven (7) steps as described in Chapter Two to integrate waste pickers within formal waste management systems (DEFF, 2020:58). These steps serve as the base for municipalities to develop their WPIPs. It has emerged from the findings that, institutions have not yet followed the Guideline according to the seven steps: *prepare, partner, plan, enable, institutionalise, implement, and revise*. As already mentioned previously, institutions have implemented integration strategies according to what they understand integration to be. However, institutions' integration approaches did not deviate much from the suggested steps. For instance, some participants indicated that, they have developed forums which includes waste pickers as stakeholders, and according to them this action is in line with step 1: *prepare* which includes establishing internal teams. However, according to the Guideline, establishing internal teams refers to internal teams that comprise of people from relevant departments and different levels within the institution who possess required skills and expertise to contribute to waste picker integration strategies. This means that the integration team should also include support of the Municipal Manager or Chief Executive Officer (CEO) of that institution. At this stage, waste pickers are not yet part of the internal teams. It would then become apparent that, the role players' understanding of the Guideline is misinterpreted. Step 2: *partner*, entails engagements between waste pickers and institutions to share, listen and forge common understanding of roles of different stakeholders that exist in the recycling system, and these engagements should be on a regular basis. Meanwhile, role players indicated that, the established forums meet on ad hoc basis, and much is not addressed. Step 3: *plan*, involves registering all waste pickers, integrating them into new programmes, rectifying existing problems, and rectifying problems of existing recycling programmes. Notably, the registration of waste pickers is the most implemented approach in most of the institutions as stated by participants. Without taking this fact away, step 3 appears to not be fully implemented as other aspects such as rectifying the existing problems and integrating waste pickers into the new programmes have not been addressed. There is evidence that programmes implemented without actively involving waste pickers from the initial phase turn to harm waste pickers access to waste material, ultimately harming their income. The waste picker integration pilot projects in the COJ have proven to fail because of failing to clearly define the projects objectives, addressing problems, and rectifying them, and meeting waste pickers needs (Pholoto, 2018; Sekhwela, 2017; Samson, 2019; Sekhwela and Samson, 2019). Steps 4 to 7: *enable; institutionalise; implement; and revise* respectively, appear to not being

implemented yet by all institutions in this research study. As mentioned above, role players indicated that their institutions were in processes of amending their by-laws and IWMPs as is suggested in step 4. However, the processes were still at their initial stages, with some role players indicating that they could not allude much regarding their integration plans as these documents were not finalised and published yet. Furthermore, other aspects in step 4 such as securing of skills and funds, educating role players and the public about waste pickers, and the need to integrate them were not mentioned by role players as being implemented in their respective institutions. Similarly, step 5: *institutionalise*, include incorporating WPIPs in the IDP and IWMPs of municipalities, and is also not currently achieved by most institutions. Steps 6 and 9 *implement*; and *revise* respectively, have not yet been implemented since the preceding steps are not necessarily achieved.

Overall, after a year of the publication of the Waste Picker Integration Guideline of South Africa, role players are still not very familiar with the content of the Guideline. This indicates lack of awareness and communication on new developments within the waste management sector. The lack of awareness of changes and development in the waste sector by role players raises concerns on the effectiveness of their current integration approaches. The findings further raise questions that, there is clearly poor communication within departments in the municipalities since it has emerged that, two colleagues from the same department had conflicting knowledge about the integration Guideline, where one was very familiar (because they were part of the working group), and the other did not have proper knowledge since they are in operations and not dealing with policies.

4.4.3.4 Role players' challenges and opportunities of integrating waste pickers

As noted in Chapter Two, people who turn to waste picking as means of income are mostly foreign nationals. The findings show that the majority of those foreign nationals are illegal immigrants, and this emerged as a concern for role players as it made the registration process difficult. The problem is similarly common internationally, even in developed countries (Porrás Bulla *et al.*, 2021:1308). According to role players, immigrants without proper identity documents cannot access assistance in the form of government grants, as programmes funded by the government come with conditions since the government is required to account. Furthermore, role players cited resistance from waste pickers towards the integration as a challenge they expect to arise. The resistance is attributed by three factors:

- 1) their legal status in the country;
- 2) fear of waste pickers' activities being restricted; and

3) loss of income.

Waste pickers may be resistant to be registered from fear of being recognised by authorities as illegal immigrants, which will have them deported back to their home countries. For South African waste pickers who are undocumented, DEFF (2020:115) recommends that the Department of Home Affairs to provide on-site services for waste pickers to be able to apply for identification. Programmes that are designed for waste picker integration often involve waste pickers at the last stage, without proper consultation with waste pickers (Sekhwela, 2017:104). It is for this reason that there is a misunderstanding that often leave waste pickers deciding not to be part of the programs mostly as a result of fear of losing out on time and income.

The lack of clear understanding of what waste picker integration mean for both the informal and formal waste sector exacerbated the problems. The theory of Berger and Luckmann (1966) that integration is a socially constructed concept, still prevails, with both the waste pickers and role players constructing their own understanding of the phenomenon.

Results indicated that, role players raised a concern about the availability of land to be utilised as sorting facilities. It emerged from the findings that waste pickers grab any vacant or abandoned land to sort the collected recyclable material. However, complaints of illegal dumping arise as a result of non-recyclable waste is left on those sites by waste pickers, resulting in environmental pollution. Waste pickers expect the municipalities to provide them with the land to do their sorting, as part of the integration. It is important to note that, municipalities over and above the municipal by-laws, operate under various town planning schemes or land use schemes prepared in terms of a Provincial Ordinance or Act, an example of such scheme, in Gauteng, the Transvaal Town Planning and Townships Ordinances No. 15 of 1986. Such legislation provides certain restrictions in terms of land use management. For instance, the City of Johannesburg Land Use Scheme of 2008 requires written consent obtained from the council in a case where a land is utilised for activities other than the primary land use rights (COJ, 2018:36). This means that, since waste pickers are operating within residential areas, any vacant land within a residential area not used as per the primary land use right of "*Residential*" waste pickers shall apply for written consent from the council to utilise that land for sorting recyclable waste.

While there is a myriad of challenges of integrating waste pickers in the formal waste sector, role players perceive that integration comes with great opportunities. Most role players cite improvements in the recycling rates, improved S@S participation, prolonged lifespan of landfill sites, and reduced costs of waste removal services for municipalities. Role players also acknowledged that by integrating waste pickers through cooperatives will improve communication channels and allow waste pickers to unite and have one voice.

4.5 Chapter summary

Chapter Four has presented the data analysis, as well as a discussion on the interpretation of the findings. The data was discussed and analysed according to the structure of the questionnaire and emerged themes. The statistical findings of participants were presented in a form of graphs. In addition, themes that emerged during data analysis were highlighted and discussed. The findings in this section of the discussion showed a high percentage (58%) of participants were role players in lower management positions, whose responsibilities included implementing waste pickers integration related programmes, compliance monitoring, waste education, and BBCs operators. The chapter has also discussed the challenges and opportunities as perceived by role players in the formal waste management sector and the determination of what the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector mean for the sector.

The next chapter will provide summative remarks and conclusions on the main findings and provide recommendations that will serve as possible solutions to the challenges pointed out during data collection. Chapter Five also identifies areas for future research.

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

With the different views of what waste picker integration mean, this research study investigated perspectives of role players on the integration of waste pickers in the formal waste management sector. Many countries around the globe where waste pickers are present, are making efforts to integrate waste pickers within their formal systems. However, they are doing so in isolation and in the absence of clear policies and legislation. From a sociological point of view, integration is associated with approaches that are based on society and societal systems, rather than approaches that are subjective on individuals' capacity for collective action (Wieviorka, 2014:633). More so, socially and politically, integration is far from being able to account for realities or successfully implement public policies (Wieviorka, 2014:633). Two research objectives were set out in order to achieve the aim of this study, which are:

- To investigate the different views of role players on the integration of waste pickers in the formal waste sector; and
- To determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector.

This research study is significant in contributing towards understanding waste picker integration, and how perspectives have the potential to shape the success or failure of the integration process. Role players in the formal waste management sector are crucial in the development of policies that are directed towards achieving waste picker integration. Therefore, their understanding of the phenomenon is centre stage.

Chapter One of this dissertation provided an introduction of waste management in the global context, and further defined the formal and informal waste sectors, and demonstrated the role of waste pickers in the recycling economy. Chapter Two presented the literature review on international and local waste picking, conceptualised waste picker integration, then highlighted waste pickers' integration experiences around the globe, lastly, discussed policies related to the integration of waste pickers, and highlighted how South Africa transitioned over the years in waste management. Chapter Three detailed the methodology followed in this research study to reach the set aim and achieve the objectives. A sample was drawn through purposive and snowball sampling techniques to identify participants. Purposive sampling was employed on the basis that participants were individuals who had knowledge and experience in waste management and recycling in the formal waste management sector. Other participants were recruited by existing participants, who were associates in the formal waste management sector, through the snowball

technique. Significant findings of this research study are presented in Chapter Four, which presented how integration is perceived by different role players in the formal waste management sector, and highlighted some integration approaches implemented by different institutions, lastly, reflect on the opportunities and challenges perceived by role players. Finally, this concluding chapter delivers a summary of the main findings, indicates how the objectives were achieved, provides an overall conclusion, and lastly provides recommendations for future research in waste picker integration in the formal waste management sector.

5.2 Summary of main findings and conclusions

It has emerged that waste picker integration is an international phenomenon that has been on the agenda of most developed and developing countries for over a decade, with most countries starting to acknowledge the existence of the waste pickers and their role in the waste management sector (Chikarmane, 2012:1; Dias, 2016:382; Sekhwela & Samson, 2020:22). From the literature in Chapter Two, it is interesting to note that, even the wealthiest countries in the EU are experiencing waste pickers similarly to the developing countries. Unfortunately, the challenges related to stigma associated with the activities of recycling is still a common problem globally (Coletto & Bisschop, 2017:284; Scheinberg *et al.*, 2016:823; Schoeman, 2018:360).

This study demonstrated that there are still different understandings of waste picker integration among role players in the formal waste management sector. Overall, role players clearly understand the role of waste pickers in the recycling economy and acknowledge that waste pickers should be integrated in the formal waste management sector. However, even after the improvements in the legislation and policies such as the development of the Waste Picker Integration Guideline of South Africa, there are still inconsistencies among municipalities and BBCs in terms of the interpretation and expectations of the integration process. Role players' interpretation of waste picker integration is primarily the registration of waste pickers, assisting with organising waste pickers into cooperatives, and amending current policies within their institutions. These findings concludes that the first objective of this research study of investigating different views of role players in the formal waste management sector on waste pickers integration has been met.

The positive aspect about registration and organising waste pickers into cooperatives is that waste pickers are encouraged to view themselves as part of the formal waste systems, and this may shift their perspective. These approaches if implemented correctly, will transform the lives of waste pickers. However, as previously discussed in Chapter Four, the current registration regime

is seen as a charitable approach as defined by Samson (2020b:197). From the findings, role players currently intent on helping waste pickers at face-value but lack financial and social assets. It appears as though, currently role players are supporting a “good cause” and not necessarily providing long-term solutions. More so, the findings show that the registration process is plagued with a myriad of challenges, with many of waste pickers being undocumented immigrants, making the process cumbersome. Role players did not indicate how these challenges were addressed, this then, defeats the process of adequately integrating waste pickers in the formal waste management systems. The government is the key stakeholder in achieving adequate integration with funding and policies, however, governments’ current funding model, is not designed to suit the waste pickers structures and systems. For integration to be successful, a bottom-up approach will concentrate on providing waste pickers with the platform to voice out how they need to be integrated, raise the defects in current models and ensure that the integration plans are implementable and allow for reviews and assessments.

Integration through cooperatives is an international best practice, with evidence of success from countries such as Brazil and India (Dias, 2011; Chikarmane, 2012). While such approach has been adopted in South Africa, as indicated by role players in this study, the success rate is appearing to be unpromising. The NWMS 2011 made provisions that encourages municipalities to contract recycling services, which encourages job creation to the unemployed youth including waste pickers (NWMS, 2011). Even though integration through cooperatives is regarded as the preferred option, enforcing legislation that governs how cooperatives should be run is weak (Godfrey *et al.*, 2017:805; IOL, 2019:4). This fact was supported by a study by Guya (2019:99) where officials from the Metsimaholo Local Municipality emphasised the need to expand the effectiveness of existing legislation that support the integration. Role players in this study perceive integration through cooperatives as beneficial to them with regards to communicating with waste pickers in a group rather than as individuals. This is clear that, how role players interpret integration and its policies, is mainly to facilitate their work as officials or employees, rather than to eradicate problems faced by the informal sector. This highlights a serious lack of awareness and understanding of waste picker integration by role players.

In addressing the second objective of determining the perceived challenges and opportunities associated with integrating waste pickers in the formal waste sector, role players expressed that, currently, there were no solutions to the problem of registering undocumented waste pickers. As a result, there has been reluctance from waste pickers to participate in the registration process. Role players foresee the availability of suitable land for sorting purposes as a challenge, since the different town planning schemes and ordinances restrict certain land uses especially with

residential areas. Even if land was to be granted, the responsibility of maintaining that land will be challenging.

In conclusion, it is clear that role players acknowledge waste pickers, the role they play in the recycling sector, and the need to integrate them. The process of integrating waste pickers within the formal waste management sector has already started in most municipalities. However, role players continue to develop and implement integration strategies according to their own interpretations of what integration mean. The Waste Picker Integration Guideline of South Africa was published to be a guiding document that provides direction and clarity on how WPIPs may be developed. Yet, a year later not all role players have not familiarised themselves with the contents of the Guideline. This situation highlights a serious disconnect between policy planning and development, and policy implementation. There is lack of awareness to inform role players on new developments in the sector, in the context of new policies. It can be argued that a Guideline by definition is not a legally binding document, hence there is less acknowledgement from role players. This study contributes to previous studies of other researchers Sekhwela (2017), Pholoto (2018), and Guya, (2019) who were looking into how waste pickers understand waste picker integration and investigate pilot projects that were implemented towards integrating waste pickers in the formal waste management sector.

5.3 Recommendations and areas of future research

In light of the discussion above, the following recommendations are proposed:

- There is a need that role players tasked with facilitating the integration process at different institutions within the formal waste management sector to be mentored and adequately skilled particularly on Section H of the guideline which detail all steps to be followed when developing integration programs for an effective implementation process;
- Waste picker integration should be included in the IDP of the municipalities. In this way, municipalities will be able to allocate budget intended for the integration, and the budget should be ring fenced to ensure that funds are not re-directed to other uses;
- National awareness about the Waste Picker Integration Guideline of South Africa is needed and be extensive, to ensure that role players are aware about the existence of the Guideline;
- Registration of waste pickers should not be dependent on the immigration status of waste pickers, i.e., instead of requiring identity documents, date of birth should be considered, and waste pickers should receive a unique registration number that identifies them; and

- The Waste Picker Integration Guideline should be a mandatory document that is enforceable and should be complied with.

Future research can be undertaken to investigate the effectiveness of the Waste Picker Integration Guideline of South Africa, and to further determine if the recommendations in the Guideline are implementable.

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ANNEXURE A: INVITATION LETTER AND CONSENT FORM



Private Bag X6001, Potchefstroom
South Africa 2520

Tel: +27 18 299-1111/2222
Web: <http://www.nwu.ac.za>

August 2021

FOR ATTENTION:

RE: INVITATION TO PARTICIPATE IN RESEARCH STUDY

Introduction

You are being invited to participate in a research study conducted by **DM Seabi** with Student number **34661522** under the supervision of **Dr. Leandri Kruger** a Senior Lecture in Unit for Environmental Science and Management at the North-West University. The study is titled "**Perspectives of role players on waste picker integration in the formal waste management sector**" and aims to investigate the perspectives of different role players on the integration of waste pickers in the formal waste management sector. You were purposively selected as a possible participant in this study because your institution is one of the key role players in the waste management sector. The research will form part of a master's dissertation which will be submitted in partial fulfilment of the requirements for the degree: Master of Environmental Management with specialisation in Waste Management at the North-West University.

Interview procedure

If you agree to participate in this study, you would be requested to do the following:

- Indicate a time and date when you will be available for an interview. The interview should take no more than 45 minutes of your time.
- Indicate whether you would prefer to be interviewed in person, telephonically or via a technology such as Zoom or Skype.
- Agree to the recording (audio only) of the interview to ensure that it can be accurately transcribed. The recording will be deleted as soon as it has been transcribed. You will have the right to review and edit the audio recording if you so choose.
- Read through this consent form which is to be signed on the day of the interview.

Confidentiality

The records from this study will be kept as confidential as possible. No individual identities will be used in any reports or publications resulting from the study. All transcripts will be given codes (e.g. Participant 1) and stored separately from any names or other direct identification of participants. The information obtained through the interview will be used exclusively for this study and for no other purpose.

Potential risks and discomforts

No risks or discomforts are foreseen. In the event that a risk is identified, or discomfort is experienced, the interview will be stopped. You further have the right to end the interview at any time and for any reason.

Potential benefits to the interviewee and/or society in general

The study will contribute towards understanding the waste picker integration and how different perspectives shape the success or failure of the integration process of waste picker in formal waste management sector. It will further provide insights on possible effective approaches which may be developed based on varied understanding.

Compensation

No compensation can be offered for participation in the research.

Withdrawal

You may withdraw from the study at any time and do not have to provide a reason.

Ethical clearance

This research has obtained ethical clearance **Ethics number: NWU-00472-21-A9** from the Faculty of Natural and Agricultural Science Ethics Committee (FNAS-REC). If you have any concerns or questions in this regard, please contact Prof. Roelof Burger (roelof.burger@nwu.ac.za).

Contact details of researcher

If you have any questions or concerns about the research, please feel free to contact researcher: Matladi Seabi on 073 248 5198 email: matladiseabi@gmail.com or research supervisor: Dr. Leandri Kruger on 018 299 1006 email: Leandri.Kruger@nwu.ac.za

INTERVIEWEE CONSENT

I _____ confirm that the above information was explained to me in a language and in manner that I understood. I further confirm that I am older than 18 years of age and hereby volunteer to take part in the study.

Signature _____ Place _____ Date _____

RESEARCHER CONFIRMATION

I _____ hereby confirm that the contents of this document was explained to the participant in a language and manner that he / she could understand.

Signature _____ Place _____ Date _____

ANNEXURE B: ETHICS APPROVAL LETTER



Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222

Fax: 018 299-4910

Web: <http://www.nwu.ac.za>

Senate Committee for Research Ethics

Tel: 018 299-4849

Email: nkosinathi.machine@nwu.ac.za

ETHICS APPROVAL LETTER OF STUDY

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

Study title: Perspectives of role players on waste picker integration in the formal waste management sector.															
Study Leader/Supervisor: Ms L Kruger															
Student: DM Seabi															
Ethics number:	N	W	U	-	0	0	4	7	2	-	2	1	-	A	9
	Institution				Study Number						Year		Status		
Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation															
Application type: Single					Risk Category:					Minimal					
Commencement date: 01/01/2021															
Expiry date: 01/04/2022															
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.															

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

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

Special conditions:

The best practices with regards to interviews should be implemented, including proper negotiation of access to participants; representative sampling; documented informed consent that includes the important elements; alignment of information collected with research questions; anonymization of collected information, ensuring the integrity and security of all data collected.

General conditions:

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

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

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

Yours sincerely,



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

ANNEXURE C: INTERVIEW QUESTIONNAIRE



Institution: North-West University

Campus: Potchefstroom

Field of Study: Master of Environmental Management with Waste Management

Dissertation Title: Perspectives of role players on waste picker integration in the formal waste management sector

Student Name: Dorah Matladi Seabi

Email Address: matladiseabi@gmail.com **Contact Number:** 073 248 5198/071 351 6334

Supervisor: Dr. L. Kruger (Leandri.Kruger@nwu.ac.za)

Ethics number: NWU-00472-21-A9

Dear participant,

My name is Matladi Seabi. I am a registered student for a Master's degree in Environmental Management (with specialisation in Waste Management) at the North-West University. You are invited to participate in my study which intends to investigate different perspectives of role players on the integration of waste pickers in the formal waste management sector. The research objectives of this study are as follows:

1. To investigate the different views of role players on the integration of waste pickers in the formal waste management sector; and
2. To determine the perceived opportunities and challenges associated with integrating waste pickers in the formal waste management sector.

The data obtained from participants such as yourself is important in achieving these objectives and to build on the body of knowledge on waste pickers, recycling, and the integration process in the formal waste management sector.

This semi-structured questionnaire consists of 13 questions and four (4) sections, respectively. The first section consists of both open-ended and close-ended questions, whereas the remaining three sections are mainly open-ended questions, which will allow an open conversation between you and the researcher. The interview will take approximately 30 - 45 minutes of your time. Interviews will be conducted either face-to-face, virtually (via zoom or MS Teams), and/or telephonically. The following national COVID-19 protocols will be adhered to during face-to-face interviews, which will include the wearing of masks at all times, keeping a social distance of two (2) meters between the researcher and the interviewee, and the sanitization of hands.

Participation in this study is entirely voluntary, and you may withdraw from the study at any time. Additionally, the anonymity, privacy and confidentiality of participants are guaranteed.

Thank you in advance for your valuable time and participation in this study.

INTERVIEW QUESTIONS ON PERSPECTIVES OF ROLE PLAYERS ON WASTE PICKER INTEGRATION IN THE FORMAL WASTE MANAGEMENT SECTOR.

Instructions:

- The interview will take approximately 30 minutes – 45 minute.
- This interview will be recorded (audio only) with your permission for the purpose of accurate transcription.
- Please indicate if you give consent to participate in this interview.

A. Yes	B. No
<input type="checkbox"/>	<input type="checkbox"/>

- Please indicate if you give consent to the recording (audio only) of this interview?

A. Yes	B. No
<input type="checkbox"/>	<input type="checkbox"/>

SECTION A: BACKGROUND OF THE PARTICIPANT

The following questions are related to your professional background in waste management.

A.1 What is your current occupation? Kindly elaborate on your field of occupation.

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A.2 How long have you been occupied in this position?

A. 1-5 Years	B. 5-10 Years	C. 10-15 Years	D. More than 15 Years
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A.3 What is your highest level of qualification?

A. Certificate	B. Diploma/BSc/BA/B-Tech/Hons	C. MSc/M-Tech/M	D. PhD	E. Other
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Kindly elaborate on your qualification details in Question A3.

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SECTION B: THE ROLE OF WASTE PICKERS AND WASTE PICKER INTEGRATION IN THE FORMAL WASTE MANAGEMENT SECTOR

The following questions are related to your understanding of waste picker integration in the formal waste management sector.

B.1 What is your understanding of the role of waste pickers in the formal waste management sector? Kindly elaborate on your understanding.

B.2 What is your understanding of the integration of waste pickers in the formal waste management sector? Kindly elaborate on your reasoning for your answer.

B.3 What approaches/plans have your institution implemented towards the integration of waste pickers in the formal waste management sector?

B.4 Kindly reflect on the progress made by your institution in achieving waste picker integration into your waste management system?

SECTION C: WASTE PICKER INTEGRATION GUIDELINE

This section focuses on your understanding of the Waste Picker Integration Guideline for South Africa, which was published by the Department of Environment, Forestry and Fisheries (DEFF) to assist municipalities and industry to integrate waste pickers in the formal waste management sector.

C.1 How familiar are you with the Waste Pickers Integration Guideline for South Africa?

A. Not Familiar	B. Slightly Familiar	C. Moderately Familiar	D. Very Familiar

C.2 Section H of the waste picker integration guideline provides seven (7) steps (prepare, partner, plan, enable, institutionalise, implement, and revise) that can be followed to design and implement waste picker integration programmes and plans. This section of the waste picker integration guideline also provides suggestions on the key challenges related to the integration of waste pickers.

In your opinion, how is Section H of the waste picker integration guideline aligned to what is currently implemented by your institution?

C.3 In your opinion, how has the waste picker integration guideline assisted your institution in facilitating the integration of waste pickers in the formal waste management system?

SECTION D: PERCEIVED OPPORTUNITIES AND CHALLENGES OF INTEGRATING WASTE PICKERS

The following questions are related to the perceived opportunities and challenges pertaining to the integration of waste pickers in the formal waste management sector.

D.1 What challenges have you experienced or anticipate with the integration process of waste pickers? Kindly elaborate on your perspective.

D.2 What opportunities are there for your institution with integrating waste pickers? Kindly elaborate on your reasoning.

D.3 What support or interventions would you recommend to be implemented to achieve or maximise the process of integration?

---Thank you for your participation---