

BINDURA UNIVERSITY OF SCIENCE & EDUCATION

**FACULTY OF AGRICULTURE & ENVIRONMENTAL
SCIENCE**

DEPARTMENT OF NATURAL RESOURCES

**ASSESSING COMMUNITY PERCEPTIONS AND ATTITUDES TOWARDS WASTE
REDUCTION THROUGH RECYCLING PROGRAMS IN CHINHOYI**



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(B223633B)

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN
NATURAL RESOURCES MANAGEMENT**

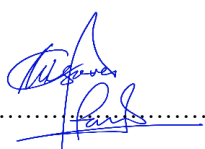
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I, Ethel Timoti, hereby declare that this is my original work and has not been taken from any other sources without acknowledgement or submitted for any academic credential at this or any other institution of higher education, nor has it been presented for academic publication or any other purpose.

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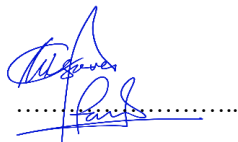
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The undersigned certify that they have read and recommended to the Bindura University of Science Education for examination: A dissertation entitled, “Assessing community perceptions and attitudes towards waste reduction through recycling programs in Chinhoyi.”

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DEDICATION

I would like to dedicate this work to my family, my parents Mr and Mrs Timoti, my siblings (Morelisa, Joram and Darlington) and friends for their constant moral and financial support, which sustained me throughout my academics.

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First and foremost, I would like to express my gratitude to the Lord Almighty for His love and grace during my research study period. I wish to extend my heartfelt gratitude to my supervisor Mr Chisova for his patience and support. I know that I made mistakes at times, but your guidance and trust in me helped shape who I am today. I would also like to thank my friends, I learned a great deal from each one of you, and I am truly grateful. A special mention also goes to Mr Mahlathini, a lecturer at Chinhoyi University of Technology, for his suggestions and brainstorming sessions during this study. Lastly, a special thank you to Chinhoyi residents who participated in this research, thank you so much for being there for me when I needed you the most, I encourage you not to limit your kindness and support to me alone but to continue sharing your love and experiences with others, just as you have done for me.

ABSTRACT

Waste management has become a major environmental degradation factor in developing countries for the past decades. Inconsistent garbage collection has led to illegal waste dumping along roadsides, rivers and waste burning which results in drainage blockages, diseases and spread of smelly odors. Recycling has been viewed as an efficient and effective tool that can be used to minimize the amount of municipal solid waste that enters into dumping sites and some end up being burnt. Perceptions and attitudes of people in the community seems to be crucial as their points of understanding solid waste management ultimately play an important role in producing answers to environmental problems. For a successful recycling initiative, householders' participation cannot be ruled out. In this study, the participation of local people in recycling programmes within Chinhoyi was tested by investigating the awareness, attitude and willingness levels of householders to participate. A total of 92 questionnaires were administered to residents from low-density and high-density areas of Chinhoyi. This was done through simple random sampling technique. Interviews were also conducted using selective sampling techniques with the 8 key informants who are already into recycling within the study area Community Based Organisations (CBOs). Moreover, the collected data were analyzed using IBM SPSS version 27 after being coded in Microsoft Excel, to denote frequencies and percentages as well as p-values and thematic analyses. 59% of the respondents had knowledge on recyclable materials although the waste separation at household level was still low despite their awareness levels. Respondents from low-density areas demonstrated a positive attitude towards recycling programmes and their participation and support towards CBOs was effective. This was determined by their access to recycling infrastructure and awareness information. Respondents from high-density areas and CBOs indicated that they required financial incentives, education and awareness programs in order for them to highly participate. In terms of significant relationships between variables, area of residence, income and educational level had significant association with practice for their p-values < 0.05 . Conclusively, there is a need for collaboration of stakeholders involved in waste management to address community perceptions and attitudes towards waste recycling. This can be done by providing recycling education and emphasizing the importance of community engagement. This will address the identified barriers, while also leveraging the existing enthusiasm among residents for waste reduction in Chinhoyi through recycling programs.

Keywords: Community perceptions; attitudes; waste management practices; recycling programs

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LIST OF ACRONYMS

ISWMP	:	Integrated Solid Waste Management Plan
CBOs	:	Community Based Organisations
MSW	:	Municipal Solid Waste
EMA	:	Environmental Management Agency
EMAct	:	Environmental Management Act

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Urban expansion serves as the driving factors promoting social and economic development in the world but has a negative side that results in land, water, air and ocean environmental problems. The quantity and complexity of garbage produced have also increased as a result of urbanization and development (Hobwana et al., 2018). Communities have to take note of how they interact with the environment. “Waste includes all forms but solid waste is becoming a major health and environment concern in most of the developing countries”, (Srivastava, 2013). Solid waste is frequently discarded on streets and in public areas, which has resulted in a variety of health issues (Yiougo et al., 2013).

However, problems of unsustainable accumulation of volumes of waste are generated everyday thus making it difficult for the local council to offer collection and transportation services to the community. The existing waste management practices focus solely on collection, transportation and waste disposal, neglecting sorting and utilizing waste that remains economically viable and useful (Mahartin, 2023a). The government of Zimbabwe in 2014 developed the Integrated Solid Waste Management Plan (ISWMP) that established the initiative of First Friday of every month clean-up programmes, waste separation at the source and recycling programmes which were supported by a wide number of stakeholders.

Waste reduction is very crucial to be done at the source (homesteads) to manage municipal waste and to promote recycling. Efficient waste management minimizes accumulation of waste that is disposed of every day and creates a room for opportunities for economic and social benefits from recovered and recycled materials (Awopetu *et al.*, 2013). This calls for innovative ways that can tap into the existing system, which encourages active public participation and practice of recycling. The effectiveness of recycling programs lies in the knowledge and perceptions of the community, as they are the ones who enjoy the economic and environmental gains obtained from

recycling as it also promotes sustainable development (UNEP, 2024). The involvement of community members not only protects the environment but also aids natural resources conservation. The Garbage Bank was introduced to handle waste management, through embracing the use of the 3Rs framework namely reduce, recycle and reuse aiming to curb waste generation (Mahartin, 2023a). Environmental Management Agency (EMA) created a recyclers directory database which consists of different buyers of waste hence creating a link between waste management and waste recovery initiatives.

This research aims to assist communities within Chinhoyi with waste reduction by promoting recycling programs and creating an environment that is pollution free, safe and healthy. It focuses on understanding the views and perspectives of communities on recycling programs in Chinhoyi.

1.2 PROBLEM STATEMENT

Chinhoyi Town has been developing, with an increase of growth on the residential areas which have led to the need to plan and develop waste management strategies and services those carter for every location. Despite numerous clean-up and anti-litter campaigns that have been initiated by different individuals and organizations, illegal dumpsites within Chinhoyi suburbs still persist, highlighting that once off efforts are not sufficient and that consistent daily action is required (Gemnation newspaper, July 2025). However, in the past years there has been an increase in illegal use of open spaces, roadsides and streams and unattended. These dumpsites are a result of uncollected waste that people dump because the council failed to deliver their services. According to Tsvere *et al.* (2015) it was noted that regardless of many attempts to educate the community members on proper solid waste disposal, very little change can be detected in solid waste management in the urban areas. This research seeks to promote waste management in Chinhoyi through community participation in recycling.

1.3 RESEARCH AIM

To assess community perceptions and attitudes towards waste reduction through waste recycling programs in urban areas.

1.4 OBJECTIVES

The study seeks to achieve the following objectives:

1. To evaluate local communities' knowledge on waste management and separation at source.
2. To determine the effectiveness of recycling initiatives in waste reduction.
3. To assess perceptions and attitudes of the community towards waste reduction through engaging in recycling programs.

1.5 RESEARCH QUESTIONS

1. What are the respondents' knowledge on waste management and separation?
2. How effective are waste recycling initiatives in Chinhoyi towards waste reduction?
3. What are the challenges that hinder effectiveness of community participation in recycling programs?

1.6 JUSTIFICATION

The purpose of this research is to assess personal perceptions and attitudes of communities in Chinhoyi towards waste reductions through waste recovery (recycling) programs. Illegal dumpsites continue to appear across Chinhoyi suburbs despite efforts by the municipality and the Environmental Management Agency (EMA) to introduce recycling programs. This bridges a gap in community awareness, participation, and the overall effectiveness of current waste management strategies. Despite previous research conducted in concern of solid waste management, there is limited understanding of how communities personally perceive and engage with recycling. This study seeks to fill that gap by exploring local attitudes and behaviors toward waste reduction. The broad topic of waste accumulation through illegal dumpsites has received attention, including from the government, but enforcement of recycling of recyclable materials is not the focus of that attention.

This study will foster community participation in recycling where recyclable materials are reintegrated into industrial processes contributing to a cleaner safer urban environment by encouraging community participation in recycling and discouraging harmful practices like burning and burying waste. The Chinhoyi Municipality will be able to come up with strategies of enabling residents to separate waste at source so as to allocate Community Based Organization members (CBOs) in various locations to pick up recyclable materials. These will ease their

operations as they will only just ferry unrecyclable materials from residential areas and dispose at landfills to curb the production of methane from waste.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Urban waste management has been theorized in many ways, with researchers proposing different frameworks to explain motivation behind responsible waste behaviour. Previous literature presents a broad range of perspectives, this research focuses on recycling strategies, which appears consistently across published literature. This is mainly influenced by community behaviors, participation and opinions that are derived from recycling. This research has drawn literature from various contexts, with particular attention focusing on waste reduction. According to Hobwana, *et al.*, (2018), “municipal solid waste is defined to include waste arising from private households to that collected by or on behalf of local authorities from any source, therefore includes a proportion of commercial and non-hazardous industrial waste.”

2.2. WASTE MANAGEMENT PRACTICES DEVELOPED COUNTRIES

Developed countries are responsible for generating a large amount of municipal solid waste as compared to developing countries. The generation rates are linked to urbanization, population growth and affluence (Bogner *et al.*, 2007) clearly states that richer societies generate more waste as compared to less affluent countries. Nations now shift to industrialization and urbanization, this causes household patterns and consumption patterns to change because countries become wealthier and a wider range of products becomes available on the market that leads to increase in waste generation according to (UNEP, 2024). Countries in developed countries practice waste collection, composition, recycling, landfill and incineration in waste reduction.

Waste collection is the initial stage in the management process, where waste collected from homes and business centers is then transported to treatment facilities. Waste is collected and

transported by trucks. Waste collection services are typically government-regulated and centrally controlled, supporting timely budget allocation, mechanization, and reduced handling challenges (Awino and Apitz, 2023). Developed countries perform door –to-door collection services for recyclable materials especially in Hungary, Korea and Poland (HU Municipal waste factsheet, 2025), this is done by municipalities’ authorities accountable for organizing collection and treatment services. In many cities, local legislation mandates that waste collection services be provided to households, while larger residential buildings or commercial institutions contract with private operators (World Bank, 2019).

Waste is separated to screen out organic matter, such as food waste from inorganic materials at the treatment centre for composting. High-income countries use composting as a recycling method to produce biofuels and heat that can be used to generate renewable electricity (Hoareau *et al.*, 2021). This step is critical for ensuring that waste is properly disposed of and people can be able to convert waste to energy by breaking down waste thermally (Srivastava, 2013).

Recycling protects natural resources from further exploitation and aids in reducing the volume of waste that is destined for landfills. The OECD (2019) defines recycling as the reprocessing of material in a production process that diverts it from the waste stream, excluding use as fuel. Recycling and composting are perceived as means to reduce urban waste that end up in landfills, preserve natural and manmade resources, reduce methane emissions from landfills and promote circular economy (Koutelidakis, 2019). Sanitary landfills are the ones popular in high-income countries. Sanitary landfills contain waste cells lined on the bottom to prevent leachate seepage, waste is buried in soil then compacted and covered with a lining to collect methane gas that is then used to generate electricity (Hoareau *et al.*, 2021).

2.3. WASTE MANAGEMENT PRACTICES IN DEVELOPING COUNTRIES

Global emphasis on waste management has increasingly shifted focusing on waste reduction and recycling before disposal. However, waste management in developing countries still

continues to be a challenge due to limited collection, transportation, and disposal (Abdulhamid, Ali and Semhar, 2024). Urban municipalities distribute bins for storing household waste door-to-door. Low-income countries generate less waste that consists of food waste and plastic packages. Municipal authorities persistently encounter challenges in solid waste collection at generational points and dump sites as scheduled (Muisa Zikali *et al.*, 2022).

Even though the urban municipalities are working in line with the vision 2030, there is still a challenge in waste collection and transportation. This is easily noticed due to various illegal dumpsites that are in urban areas, caused by pre-collection methods at household level and the official refusal collection by the urban council known as secondary collection (Brighton *et al.*, 2024). Urban city councils appoint different refusal collection days once every week in residential areas using compactors. These compactors ferry waste to the dumpsite. Developing countries use compact garbage trucks to ferry waste door-to-door.

There is no waste separation at homes due to inadequate bins to categorize waste; only one bin is used to store waste at homes. Urban municipalities encourage residents to practice composting as a recycling method to store organic waste which can then be used for manure. Metal scrap recycling was commonly practiced informally in many municipalities, until the blacksmiths came up with an idea to manufacture simple tools such as hoes, axes, coal pots and knives (Peprah *et al.*, 2015).

African countries practice open dumping and uncontrolled landfill type, whereby dumpsites are not always fenced off as in some cases the perimeter fence has been stolen or vandalized (Remigios, 2010). Dumpsites consist of mixed waste that is not separated. Due to this, hazardous waste and recyclable materials end up at the same dumpsite of which they are supposed to be disposed of at their special dumpsites.

2.4 WASTE MANAGEMENT PRACTICES BY CHINHOYI MUNICIPALITY

The government of Zimbabwe like many developing countries acknowledges that its municipalities encounter challenges in waste management. Waste is generated every day from

daily activities undertaken by people. Mutungwe (2016), from his study he stated that only 22 (12.2%) separated waste at household level while 158 (87.8%) of the respondents did not separate waste. Most of the dump sites are more prevalent in high residential areas where there is intense human activity and high population densities in the immediate environment (*European Journal of Sustainable Development*, 2013). Despite the above concerns, the accountable authorities still use the traditional methods of managing waste that includes generation, storage, collection, transportation and disposal of waste (Shahmoradi, 2013). Financial constraints hinders the implementation of more effective systems like digital tracking of waste flows. The council collects waste once a week and transports it to the dumpsite. “The open dump site method involved compacting waste before burning it, under constraints imposed by the Environmental Management Agency of Zimbabwe,” according to (Downmore *et al.*,2011). Waste at the dumpsite is then sorted by Community Based Organisations (CBOs), who are based there and they separate recyclable materials and sell them. Chinhoyi Council only practices collection, composition and dumping as waste management techniques.

2.5 ADVOCACY IN REDUCE, REUSE AND RECYCLING IN WASTE MANAGEMENT

Tons of waste are being generated in the world every day, including hazardous waste and non-hazardous waste and people do not know what to do with it. This waste can result in environmental pollution if it is improperly disposed of and may pose health risks to the public hence there is a need for reduction where waste avoidance is inevitable. People in urban areas are expected to be familiar with 3Rs principle (Reduce, Reuse and Recycle) as a solution to cut-down waste accumulation by using garbage as a resource rather than refuse (Mahartin, 2023a). This should be conducted at the source which is the household. The 3Rs is a hierarchy approach that seeks to generate at least waste whilst producing maximum benefits of using waste.

2.5.1REDUCTION

The efficient strategy to avoid waste is to avoid creating it in the first place (Arenibafo, 2023).Changing consumption and production patterns is the main key of waste reduction. Households must analyze what they buy to avoid the throw away culture due to purchase of

unnecessary materials at their homes. The word reduces in the 3Rs it means, to use less resources efficiently. This can be done through repairing broken things instead of replacement, purchasing durable materials and use of reusable shopping bags (Mahartin, 2023a). This not only reduces the amount of waste that requires management, but reduces the demand for raw materials and prevents exploitation of natural resources (Awopetu *et al.*, 2013). Waste reduction also prevents environmental problems associated with the manufacture of goods such as the release of greenhouse gases.

2.5.2 REUSE

The use of an item in its original form for more than one time to produce other things is known as reuse. Reuse principle emphasizes the conversion of used materials into new products, such as making paper from recycled newspaper, making decorations from used milk cans and producing compost from organic matter (Mahartin, 2023b).

2.5.3 RECYCLING

It means transforming waste from garbage into marketable products. It is also considered an effective method for reducing urban waste destined for landfills, natural resources protection, reducing greenhouse gas emissions from landfills and advancing the circular economy (Koutelidakis, 2019). Some say, “it is the return of waste materials to the productive system through utilizing them in the manufacturing of goods with the ultimate aim of preserving non-renewable resources” (Bendak *et al.*, 2017). Recycling is a process that follows a chain from collection, sorting, cleaning, crushing or grinding, melting and lastly reprocessing into a new product. This method not only reduces the amount of waste that is being thrown away, but it is also an alternative way of generating income for communities, as it is believed that it generates income and provides employment to local people (Hoareau *et al.*, 2021). Recycling programs differ with some melting plastics and mixes them with sand to produce plastics bricks which is good in protecting the environment, shredding scrap tires to make handbags and melting metals to produce rods.

2.6 LOCAL COMMUNITY KNOWLEDGE AND WILLINGNESS PARTICIPATION IN RECYCLING

Recycling has been acknowledged as one of the crucial methods in waste management, but this can be effective if people are willing to participate. People's awareness, attitudes and behavior will be one of the deciding factors in the success and failure of recycling programs whether at the national or community level (Tam and Anh, 2024a).

Education and awareness remains a challenge of waste management in developing countries. Research applying Theory of Planned Behavior (TPB) was used and found that the attitude towards recycling are mostly influenced when residents possess adequate knowledge, opportunities and access to recycling facilities (Malik, Abdullah and Manaf, 2015). One can only be vexed with knowledge when they have been educated hence there is need for conduction of community education and awareness program. The research also discovered that digital platforms, especially the internet, is reported to be the leading source of recycling information (S and Ab, 2017).

2.7 INSTITUTIONAL FRAMEWORK

Institutional frameworks refer to guidelines and policies that govern the proper management of something. The E.U. policy for environmental protection, is based on preventive actions, remediation of environmental disasters and in a principle that "polluter pays" (Doukas, 2024). The law strictly says that the one that pollutes have to pay for emissions and poor waste management.

2.7.1 ENVIRONMENTAL MANAGEMENT ACT

Zimbabwe Legislation is governed by various laws such as environmental laws and urban council laws and s in refuse management. Environmental Management Act (2007), affirms that people have the right to live in a clean, safe and healthy environment which is not hazardous to human health. Understanding various laws and penalties involved is very crucial in the management of waste.

Environmental Management Act of 2002 (CAP 20:27) highlighted in the Statutory Instrument 6 of 2007 prohibits improper waste disposal as it will lead to penalization with amounts ranging from US\$5 for spot fines to US\$5000. This depends on the offence committed when one is caught on the wrong side of the law especially for illegal dumping of refuse and waste burning. EMA also conducts regular audits on city councils and residents to assess compliance with waste management regulations. Similarly, Uganda's National Environmental Management Authority (2001) provides legislative protection for both the environment and human health in the context of waste management.

Section 69 of the Environmental Management Act (2002) specifically prohibits the disposal of waste in a manner that will pollute the environment or pose health risks to the public. Additionally, Section 83 of the EMA Act also clearly states that transporters must take heed that no waste is being disposed of illegally through windows and are encouraged to have bins in their vehicles. In order for the effectiveness of Section 69, local authorities were encouraged to place bins at designated places and conduct roadblocks to check if vehicles have bins.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This section provides a clear overview of the study area where the research was conducted, also the methods employed to collect pertinent data and information for the study. It also addresses the sampling techniques and the specific population that was targeted. Additionally, the research tools utilized, including questionnaires, key informant interviews, and observations, were examined.

3.2 STUDY AREA

The town of Chinhoyi is known as the centre of Mashonaland West Province and is located, North-central of Zimbabwe. It lies west of the Hunyani River between latitude - 17.36667° S and longitude 30.2° E, 118 kilometers northwest of Harare along Chirundu Road. The town is more vexed for its agricultural significance of maize and tobacco production, copper mining, and natural attractions like the Chinhoyi Caves. The urban population is estimated to be 103 671 from the 2022 census (ZIMSTAT, 2022). The study was conducted among households that are in Mzari ward 1, Ruvimbo ward 5, Chikonohono ward 6, Rusununguko ward 10, Brundish ward 12 and Rujeko ward 13 being the high density areas (Figure 3.1).

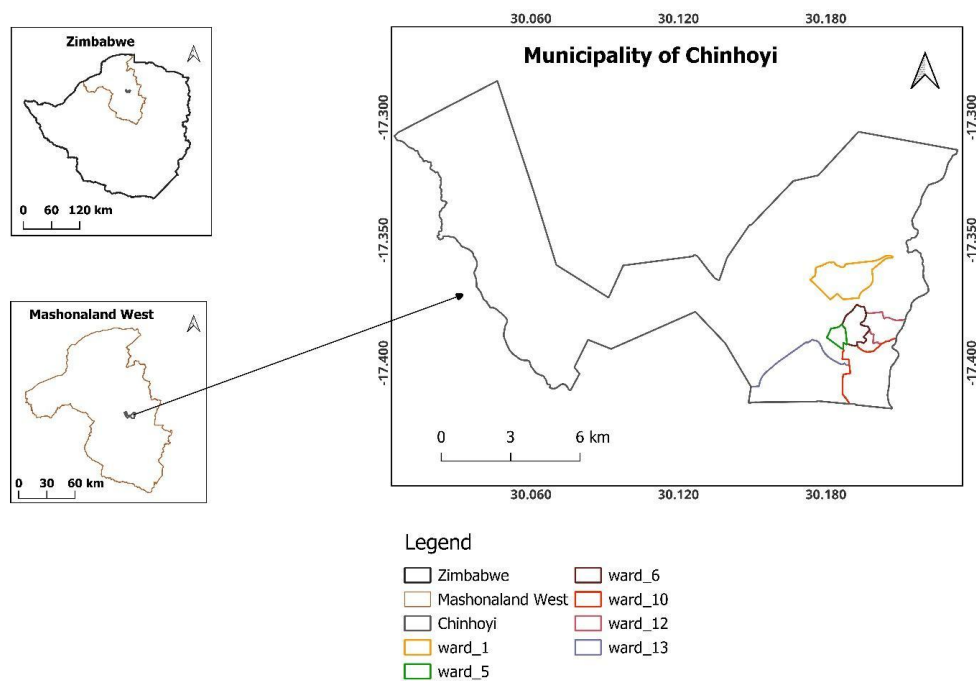


Figure 3.1: Study Area Chinhoyi Urban

3.3 STUDY DESIGN

Quantitative and qualitative sampling methods were adopted to explore the perception and attitude of the community towards waste management through recycling programs. This approach is the best for this study because it makes it possible to understand the problem and

have a complete overview of community perceptions and attitudes, social, economic and environmental factors that influence their participation in waste management. The holistic approach use mobile surveys to gather information of people even without visiting their homesteads, gain contextual information on their perceptions and their reactions towards this initiative and also in addition through qualitative approach it attempt to fill in gaps that are left unexposed by quantitative approach that brings in unexpected answers that the community have towards recycling. The instruments which were used included questionnaires and some which were accessed on google docs to respondents to auto-fill online, and interviews to Community Based Organisations who are already into recycling to gather their thoughts on waste reduction through their effort.

3.4 SAMPLING TECHNIQUES

The research used simple random sampling to acquire individual data, ensuring that everyone had an opportunity to be selected. This is a technique in which a researcher selects a random subset of people from a larger group or population and each member of the group has an equal chance of getting selected. Purposive sampling was additionally used to identify and gather data on people who are already into recycling programs (CBOs) selected to participate as key informants during interviews.

3.5. POPULATION SAMPLE

The target population comprised educational groups, waste collectors and socioeconomic groups residing in Chinhoyi. Sample size calculated using a simplified formula $n = N / [1 + N (e)^2]$, where n is the sample size, N is for population size, and e is the margin of error. A confidential level of 99.9% was used, with the precision level of 0.1%.

$$n = 103,671 / (1 + 103,671(0.1)^2)$$

$$n = 103\,671 / 1037.71$$

$$n = 99.90$$

n=100 which is the sample size that was used.

3.6 DATA COLLECTION METHODS

Data was gathered using structured surveys and interviews, as the researcher made use of questionnaire, interviews, observation

3.6.1 QUESTIONNAIRES

A questionnaire refers to a list of questions that are set to acquire data from participants through their experiences, perspectives and their attitudes. They consisted of the same set of questions that were in a closed-ended way which consisted of Yes or No and Tick boxes questions. The data collected was in a quantitative method. These questionnaires were used to obtain information on community knowledge and attitudes on waste recycling, recyclable materials and the incentives of recycling. The researcher administered the questionnaires to several groups within Chinhoyi communities.

3.6.2 CONSTRUCTION AND STRUCTURE OF THE QUESTIONNAIRES

Structured questionnaires were used to obtain data of community opinions and attitudes on waste recycling, recyclable materials and its incentives in Chinhoyi suburbs. A questionnaire with four sections was administered. The respondent's confidential information was obtained from section A, while Section B aimed to obtain knowledge, whereas section C and D sought to gather information on opinions and attitudes towards waste reduction, including aspects of how recycling protects the environment, how they are well vexed with knowledge on recyclable materials and the importance of waste sorting at the source.

3.6.3 INTERVIEWS

In-depth interviews were chosen as they allow the researcher to investigate and gather data that one cannot observe, such as thoughts, values, feelings, and perceptions. The questions used were mostly open ended, which made it possible to ask new questions during the interviewing process, depending on the responses of the participants. This is done to abstract qualitative information from respondents involved in waste recycling. Interviews were done following ethical considerations such as seeking consent from interviewees beforehand and their willingness to cooperate not by forcing them to participate.

3.7 ETHICAL CONSIDERATIONS

Ethics in research signals scientific ethical values that are to be followed before engaging with people (Hasan *et al.*, 2021). During the research ethical considerations were adhered to protect the rights of research participants through the use of confidentiality, anonymity, voluntary participation, and informed consent.

Confidentiality was done through agreeing to keep their information privacy and not be available to anyone outside the research team unless specifically agreed to. Anonymity was done to ensure that participants' identities are not known or disclosed during or after a study through encouraging participants not to disclose their names on the questionnaires and interviews and just answer the questions. Participants' cooperation was done voluntarily as they were not forced to participate but do so through their willingness.

3.8 DATA ANALYSIS

IBM Statistical Package for Social Sciences version 27 was used to analyse data and test variations in recycling rate of different residential areas through using Kruskal–Wallis ANOVA at $p < 0.05$. Raw data was coded in Microsoft Excel, to denote frequencies and percentages. The researcher used thematic analysis for coding interview responses from eight key informants which highlighted the most recycled materials and challenges faced by Community Based Organisations in their effort to minimize waste in Chinhoyi.

CHAPTER 4

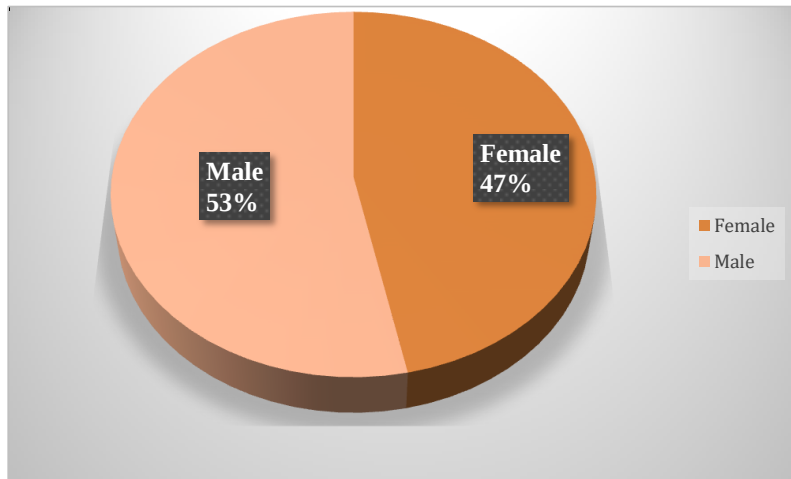
DATA ANALYSIS AND RESULTS INTERPRETATIONS

4.0 INTRODUCTION

This section focuses on data presentation of the research project. Graphs, tables and Venn diagrams were used to present the data. The knowledge and attitudes of the local communities within Chinhoyi regarding waste recycling as well as the solid waste management approaches used by CBOs are displayed in the results below.

4.1 DEMOGRAPHIC INFORMATION

A total of 92 respondents from Chinhoyi residential areas participated during the study. They were administered questionnaires based on age, gender, marital status, location and income variables. The sum total of 49 (53%) participants were males and 43 (47%) participants were females. This shows that gender representation was fairly balanced, which promotes the study findings to be reliable.



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Figure 4.1: Shows the participants gender in the study

Age was categorised into five groups such as 18-24, 25-34, 35-44, 45-54 and over 55 years olds. The largest age group was the 18-24 with 38 participants or (41.3%), followed by 25-34 years consist of 20 (21.7%) participants, followed by 35-44 that had 12 participants (13%). The other age groups in the sample were 45-54 (9 individuals or 9.8%) and lastly over 55years were 13 (14.13%) participants (Figure 4.2).

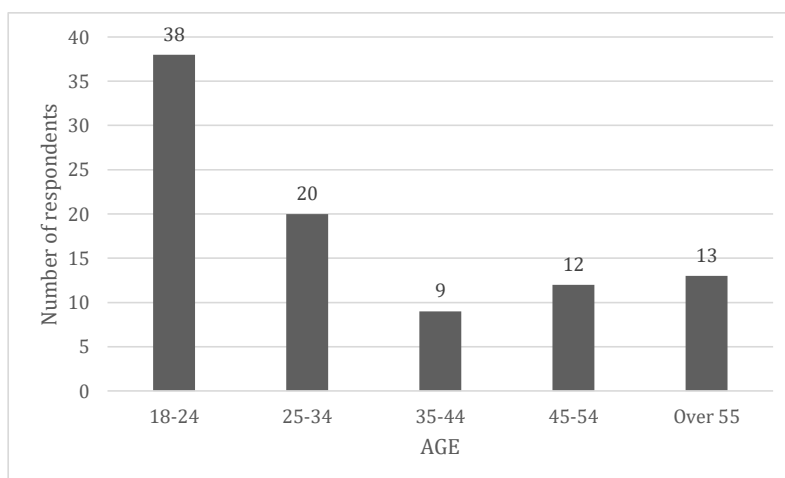


Figure 4.2: Indicates ages of the participants

In terms of marital status, respondents were categorized from single, married, divorced to widowed groups. The largest group were single, accounting to 49 participants (53%), with the lowest group were widowed, with 4 participants (4%). The dominance of single people respondents suggests that they play a role in influencing waste management practices, drive awareness campaigns and conduct waste clean-ups that often shape environmental behavior (Figure 4.3).

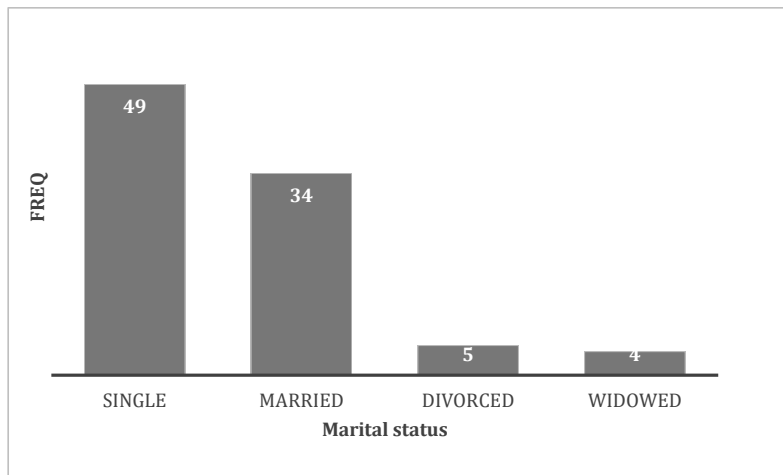


Figure 4.3: Shows marital status responses

In terms of educational attainment, 3 respondents (3%) had primary education, 27 respondents (29%) had secondary education, 44 respondents (48%) had tertiary education and postgraduates were 18 (20%) respondents. The research population's moderate literacy level is indicated by the majority of respondents having completed tertiary level, which may have an impact on awareness and comprehension of recycling and environmental conservation issues.

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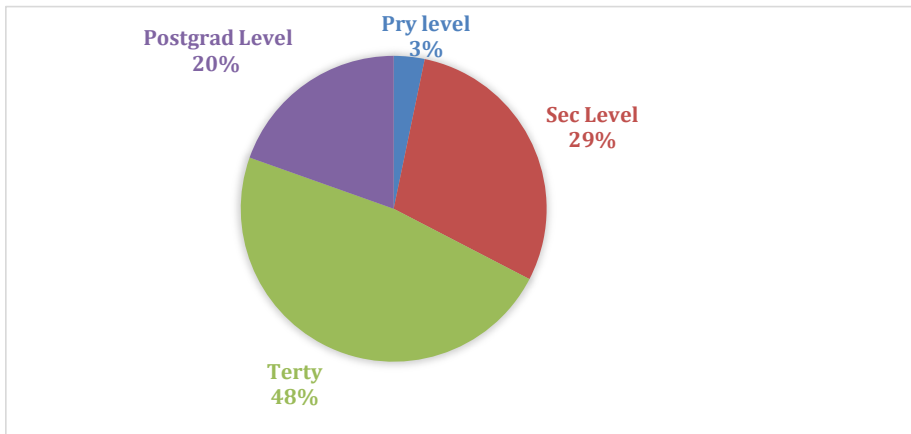
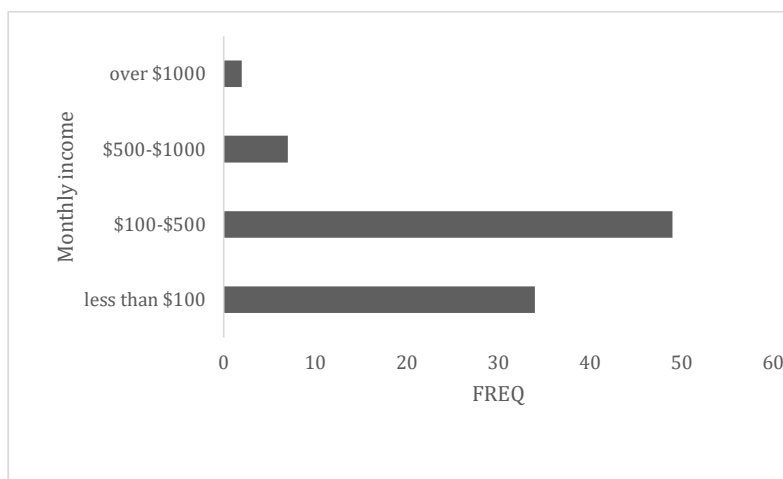


Figure 4.4: Shows educational groups within the research

Respondents' income ranged from less than USD\$100 to over \$1000. The respondents who earn less than USD\$100 were 34 (37%), \$100 to \$500 had 49(53%) respondents, \$500- \$1000 had 7(8%) respondents and lastly were 2 (2%) respondents who earned over \$1000 monthly.



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Figure 4.5: Respondents income levels

The majority of respondents were from the low-density suburb of Mzari (n= 22) followed by respondents from the high-density area of Chikonohono (n= 20) and the least respondents were from the middle density suburb of Rusununguko that had (n = 8) respondents. People in low residential areas seemed to be participating effectively in recycling, likely this is due to access availability in infrastructure (collection points) and are more vexed with awareness on the importance of recycling.

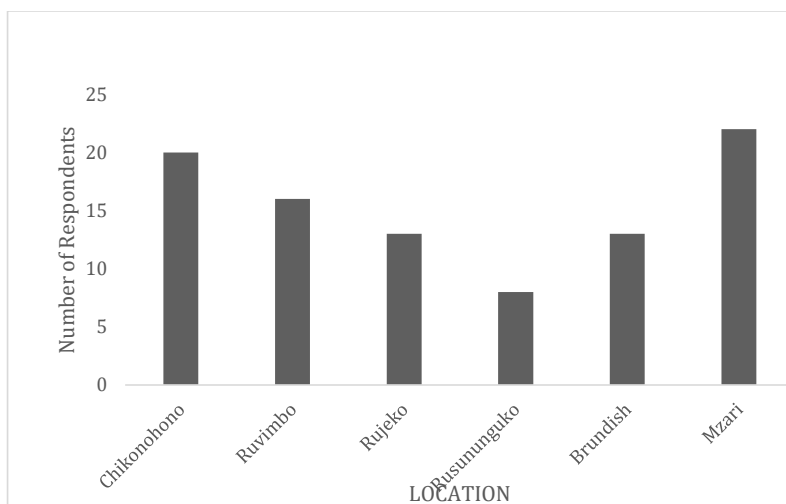


Figure 4.6: Shows low- and high-density areas within Chinhoyi

4.2 THE RELATIONS BETWEEN DEMOGRAPHICS, KNOWLEDGE, ATTITUDES, PRACTICES AND SOCIO-ECONOMIC VARIABLES.

Educational level has a significant difference in the respondents' environmental concerns ($p = 0.004$ Kruskal-Wallis ANOVA), with the primary and secondary levels responding as being worried, while the tertiary and postgraduate levels seemed to be very concerned about environmental problems. Educational level had a significant difference in the respondents' views on household waste segregation ($p=0.041$ Kruskal-Wallis ANOVA), with primary and postgraduate levels strongly agreeing on its effectiveness while contradicting the secondary and tertiary levels respondents that only agreed on its effectiveness (Table 4.1).

There is a significant difference in familiarity with natural resource conservation through recycling across educational levels ($p=0.004$ Kruskal-Wallis ANOVA), postgraduate respondents

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showed stronger agreement compared to other educational levels. Recycling programs accessibility perceptions differed by education levels ($p=0.038$ Kruskal-Wallis ANOVA), while respondents with primary and tertiary education were neutral, those with postgraduate and secondary education disagreed. Educational level had a significant difference on the respondents' views on awareness responsibility ($p = 0.027$, Kruskal-Wallis ANOVA), with tertiary and postgraduate levels assigning the role to local government, while other levels considered schools responsible for educating communities on waste reduction. Recycling importance ($p=0.001$ Kruskal Wallis ANOVA) had a significant difference across educational levels, with postgraduate responders attributing that it is extremely important to them, whilst other levels contradicting, stating that it was very important (Table 4.1).

Income levels had a significant difference in the respondents' participation in recycling programs ($p=0.010$ Kruskal -Wallis ANOVA). Respondents earning less than \$100 do not participate at all, those earning between \$100 to \$1000 participated occasionally and those that earn over \$1000 participated on a weekly basis (Table 4.1). Income levels also had significance different from the effectiveness of household waste segregation ($p=0.023$ Kruskal-Wallis ANOVA), with respondents earning less than \$100 to \$500 agreeing on the effectiveness, whilst those earning \$500 to over \$1000 strongly agreed that waste separation should be done effectively at the household level. There was also a significant difference in income levels with the respondents in the effectiveness of waste reduction through recycling ($p=0.014$ Kruskal-Wallis ANOVA). Responders with a monthly income less than \$100 felt that recycling is not an effective method that can be used to minimize waste in Chinhoyi, this contradicts with other responders who earn more attributing that recycling is the best waste management approach (Table 4.1).

Location had a significant difference in the respondents' participation in recycling ($p=0.023$ Kruskal-Wallis ANOVA), with respondents from Chikonohono, Rujeko, Brundish and Mzari suburbs occasionally participating in local recycling programs, while Ruvimbo and Rusununguko residents never take part in these programs. Knowledge on recyclable materials had a significant difference ($p=0.002$ Kruskal-Wallis ANOVA), with all the respondents familiarized with materials that can be recycled (Table 4.1).

Age was not found to be highly significant, but it exhibited some relationship with other variables like conservation ($p = 0.851$) and separation efficacy ($p = 0.185$). Amongst all groups

of different ages, the highest number comprised those in the age group of 18-24 years, which can account for the higher awareness levels, given that younger people are more prone to environmental messages due to their exposure. Age, thus, does not seem to act as an effective determinant when it comes to recycling behavior in terms of participation over time (Table 4.1).

Table 4.1: Relationship between knowledge, attitudes and perceptions with socio-demographic features

Variable	Environmental Concern	First Awareness	Recycling awareness	Collection Points	recycling Participation	Waste reduction	Separation effective	Environmental Protection thru Recycling	Environmental conservation	Recycling Program Accessible	Community Participation	Awareness responsibility	Recycling importance
Age	0.276	0.363	0.177	0.686	0.16	0.453	0.639	0.88	0.851	0.384	0.264	0.1	0.496
Sex	0.748	0.338	0.757	0.72	0.506	0.254	0.667	0.878	0.646	0.556	0.107	0.401	0.875
Marital status	0.572	0.106	0.903	0.477	0.605	0.903	0.734	0.558	0.401	0.501	0.139	0.77	0.253
Edu level	0.004*	0.361	0.122	0.126	0.75	0.512	0.041*	0.278	0.004*	0.038*	0.122	0.027*	0.001*
Income	0.375	0.541	0.678	0.326	0.010*	0.014	0.023*	0.119	0.164	0.289	0.637	0.089	0.359
Locations	0.431	0.844	0.002*	0.445	0.023*	0.588	0.105	0.055	0.264	0.296	0.06	0.586	0.054

4.3 KNOWLEDGE ON RECYCLABLE MATERIALS

The majority 54 (59%) of the participants were well vexed on the materials that can be recycled which consisted of plastics, cardboards, metals, papers and glasses. The answers given by respondents were very satisfactory. Most respondents 35 (39%) knew that plastics can be recycled and 16% knew that metals can be recycled. This knowledge was obtained from various ways with school being the dominant source of information. In addition, research noted that people were aware of recyclable materials although a few people approximately to 4% knew that glasses can be recycled (Fig 4.7).

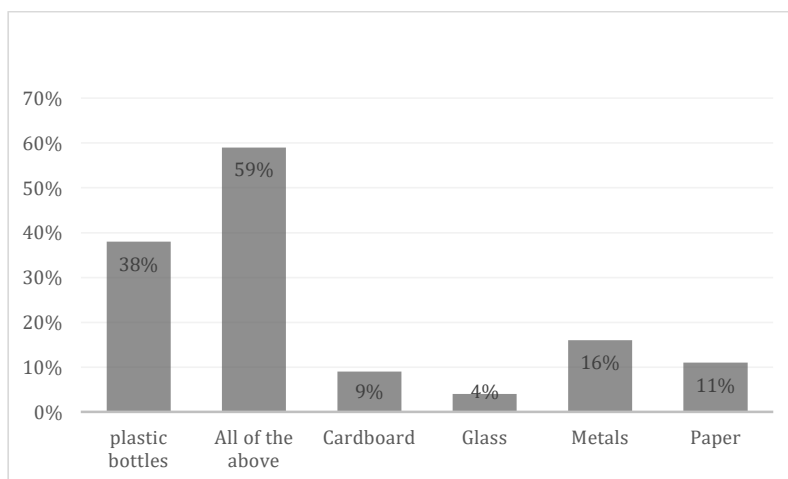


Figure 4.7 respondents' knowledge on recyclable materials

4.4 ATTITUDES AND PRACTICES TOWARDS WASTE MANAGEMENT IN CHINHOYI

Most respondents reported recycling organic waste (73%) and plastics (67%). Fewer respondents contradicted this by recycling paper (38%), metals (37%), and glass (36%), while hazardous materials had a minimum frequency recyclable (26%) (Table 4.2). These results suggest that recycling practices in Chinhoiyi are largely focused on high-volume household waste streams (organic and plastic), whereas more specialized categories such as hazardous waste receive relatively limited attention.

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Table 4.2 shows common recycled materials in Chinhoyi

Recycled materials	Frequency (%)
Organic	73
Plastics	67
Paper	38
Glass	36
Metals	37
Hazardous	26

4.5 WASTE MANAGEMENT PRACTICES BY RESIDENTS

There were four common practices used to reduce waste accumulation in Chinhoyi as listed by residents. Data results showed that only 22 people reused items, composting only had 19 respondents, only just 5 people practiced donating methods and only 4 respondents practiced buying less packaged goods. Respondents who practiced both reusing and composting were 20, composting and buying 1, donating and composting had 1 respondent, reusing and donating 1, reusing items, composting and buying had 5 respondents, donating, reusing, composting and buying less packaged goods had 3 respondents and lastly people who practiced both reusing items and buying less packaged goods were 3.

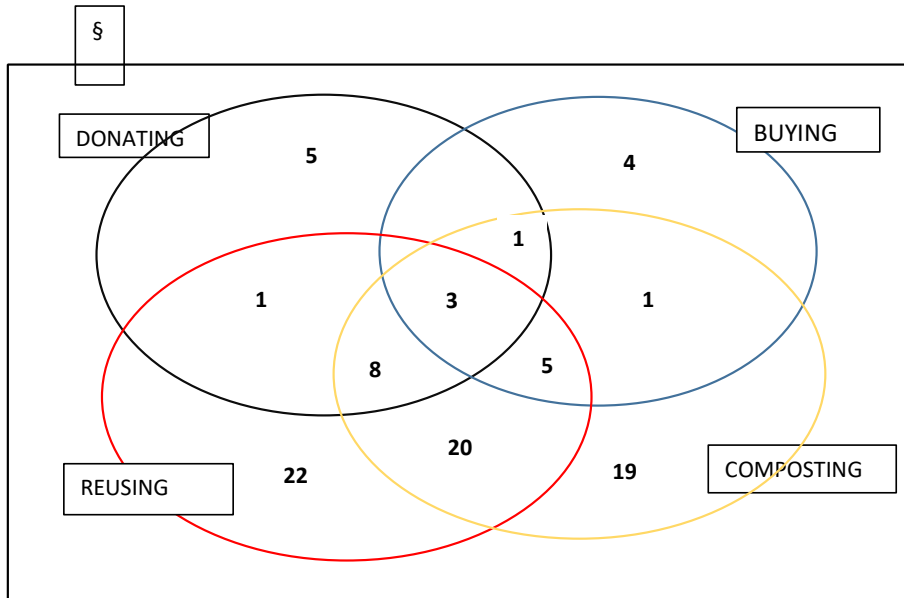


Figure 4.8: Venn diagram with sets of waste management practices in Chinhoyi

4.6 WASTE MANAGEMENT CHALLENGES TOWARDS KEY INFORMANTS (CBOS)

Eight Community Based Organisations (CBOs) namely Nherera Zvichengete, Kupfuma Ishungu, Batsiranai, Shingirirai, Chikonohono collectors, Tariro Hope, Chief plastics and Chinhoyi waste collectors were interviewed. All the participants who were interviewed agreed that the primary difficulty they encountered were shortage of protective clothing this affects their health because they practice manual collection and sorts waste using their hands and also there are no legal site for their operations as some are renting. Transport challenges reduce the effectiveness of their operational capacity which in turn affects public perceptions and support towards them. Some CBOs mentioned that there are institutional collaboration gaps such as lack of educational and awareness campaigns, hence community participation in programs that reduce refuse in Chinhoyi is low. Moreover, there was also a challenge with buyers as temper with scales and buys unbaled cardboard at a cheap price, hence the payments will be low.

Table 4.3 Results from the key informants (CBOs)

Themes	Description	Prevalence (out of 8)
Organisations Involved	Chinhoyi waste collectors, Nherera Zvichengete, Shingirirai, Batsiranai, Tariro hope, Chiefs Plastics, Chikonohono Collectors and Kupfuma Ishungu	8
Waste management practices	Open dumping, collection by Chinhoyi Municipality, recycling and landfill.	8
Recycling methods	Daily manual collection, sorting (hand into ton bags/bin liners), and baling of plastics/cardboard/metals/glass. defined as reprocessing waste into new products for environmental benefit	8
Common recycled materials	Plastics, cardboard, paper and glass bottles	7
CBO's effectiveness	Not effective as most of them are affected by transport challenges for ferrying waste from their designated collection points to their recycling centers.	8
Community dynamics	Mixed relations as some are very supportive through providing recyclable materials at their operational site and some mock them through portraying them as poor or unstable, education over conflict and there is low awareness on recycling.	7

CHAPTER 5

DISCUSSIONS

5.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS

The majority of the participants were 18-24 years (41.3%) since they were the ones mainly present at the households during the survey. Also, adults preferred that young people participate because they were the ones responsible for waste management in their homes. While age was not statistically significant in determining recycling participation ($p > 0.05$), the dominance of the 18–24 age group (41.3%) may explain higher overall awareness, as younger participants are often more exposed to environmental education. The study revealed that participants' age had no significant difference on the level of knowledge, but MSW knowledge was influenced by educational attainment. Similar results were also found from the study which indicated that there is high awareness but inadequate practice, especially among young participants however, indicating that there is need for stronger participation action (Jerath, 2021). This shows there is room for understanding and appreciation when educating them on sustainable waste management practices.

5.2 COMMUNITY KNOWLEDGE ON WASTE MANAGEMENT AND SEPARATION AT SOURCE

The majority of respondents (59%) had the adequate level of understanding on the recyclable waste materials. Respondents were asked to tick the type of recyclable materials they are familiar with among the plastics, paper, cardboard, metals and glass, with plastics being the dominant material people know. This signals a slight knowledge gap of specific materials that require targeted educational intervention. The school was identified as the foundational source of awareness, indicating the role of formal education in building a base for waste management knowledge through subjects such as environmental science. Similar findings by Tam and Anh, (2024) in Hanoi, Vietnam show that educating urban communities significantly improves recycling awareness, although practical challenges often hinder participation.

Respondents with higher education levels demonstrated stronger environmental concern and familiarity with recycling ($p = 0.004$, Kruskal-Wallis ANOVA), consistent with findings by (Shaker *et al.*, 2024) in Iraq, who similarly found that knowledge of municipal solid waste was significantly influenced by educational attainment. Participants who attained higher education, also indicated that waste management was important in the conservation of natural resources based on the results of the study ($p=0.004$). There is a need for high monitoring and management of waste to reduce water pollution through waste that can be disposed of in water bodies. These similar results were obtained during a research in Malaysia (Hoareau *et al.*, 2021).

In addition, location was found to be a significant factor influencing knowledge of recyclable materials ($p = 0.002$), with residents of low-density suburbs such as Mzari showing higher familiarity as compared to those from high density areas of Chinhoyi. This is in line with previous research conducted from Washington DC (Hoornweg and Bhada-Tata, 2012), who noted that access to waste education and collection infrastructure is unequal in municipalities of developing countries, with low income and high density areas consistently underserved. In Chinhoyi, this inequity translates directly into uneven waste knowledge and participation across residential zones.

Despite reasonable awareness levels, waste sorting at source remained inconsistent. Most common waste reduction methods were reusing items (22 respondents) and composting (19 respondents), while formal source separation was rarely practiced. This participation gap is traced to the absence of recycling bins and lack of a local recycling market. It was also observed that residents lost the motivation of waste separation at source because all waste streams are mixed during municipal collection regardless of prior separation efforts. Related previous results identified that collection or household separation was low since the municipality remixed waste in their waste collection carts combined with general refuse during municipal collection, rendering their efforts meaningless (Jerath, 2021).

5.3 WASTE MANAGEMENT PRACTICES BY RESIDENTS

The findings of the research conducted from the residential areas of Chinhoyi, revealed various methods of waste management adopted by residents. The results indicated that although waste collection and landfills are the most known, they are not effective as they face challenges due to

financial constraints (Nhubu and Muzenda, 2019; Abdulhamid et al., 2024) hence respondents opted for other alternatives. Reusing items was the most common waste reduction method (22 respondents) employed by residents as they revealed that they reused plastic bottles for storing water that reduces waste being thrown away. This is similar from the previous studies conducted in Vietnam whereby participants often reused plastic bottles to contain liquids like water or homemade milk (Nguyen *et al.*, 2023). Research conducted in Dangamvura, Mutare contradicts these results indicating that residents generally did not participate in reuse or waste recycling (Muisa Zikali *et al.*, 2022). Participants also claimed that they practiced unsustainable waste management practices such as composting (19). Composting was done for solid foods like sadza and rice whereby respondents explained that they don't dispose of solid foods in bins as it poses health risks and poses environmental problems. The increasingly popular alternative for biodegradable waste disposal is composting, which is commonly practised worldwide (Argun *et al.*, 2017).

5.4 EFFECTIVENESS OF RECYCLING INITIATIVES IN WASTE REDUCTION

The informal waste sector participants (CBOs) reported that their operational effectiveness was severely constrained by the lack of transport, absence of protective clothing, and the unavailability of legal operational sites. These constraints limit the volume of waste recovered and undermine the effectiveness of CBOs in the eyes of the communities. These participants revealed that there was an institutional gap as the Municipality of Chinhoyi and the Environmental Management Agency (EMA) were failing to promote awareness and education on the importance of waste recycling to stakeholders and the transport they were given was taken by the Municipality. In contrast with this, a study conducted in Nigeria demonstrated that CBOs were effective due to adequate awareness channels and stakeholder participation turn-out was high (Anyawu, 2025). The manual collection and sorting methods employed by CBOs also pose occupational health risks, further reducing the sustainability of their operations.

Local people responded that they recycled more plastics and organic waste as compared to other materials. This hierarchy reflects demand-driven behaviour, where residents recycle materials that are easily accessible. The inconsistency in plastic recycling despite high awareness reflects findings by Tam and Anh (2024) in Hanoi City, Vietnam, where inadequate collection

infrastructure and limited market access prevented sustained recycling behaviour. In contrast, a study noted that lack of nearby recycling facilities and mistrust of local authorities are the reasons that puts people off from recycling (Koutelidakis, 2019).

Additionally, there is manipulation of scales by buyers and purchase of unbaled cardboard below market price which introduces economic disincentives that further erode the viability of recycling initiatives. Previous studies emphasized that the integration of informal recycling actors into formal municipal systems through supportive policy, legal recognition, and financial mechanisms is critical to achieving sustainable waste reduction in developing countries (Wilson, Velis and Rodic, 2013). Researchers (Nhubu and Muzenda, 2019) further confirms that transport logistics represent one of the most significant financial constraints in Zimbabwean waste management systems, and that underfunding in the waste management area directly reduces recycling rates.

5.6 COMMUNITY PERCEPTIONS AND ATTITUDES TOWARDS RECYCLING PROGRAMMES

Level of attitudes differed based on the area and level of education groups. Residents from Mzari low density area revealed a positive attitude towards recycling since they are the ones with higher income rates as well as educated. The majority of the respondents felt that proper waste management responsibility lies with the government. This was similar with the study which was conducted in Ghana as residents in urban areas perceived a low sense of responsibility towards managing solid waste (Lissah et al.,2021.). However, some perceived that it is a collective responsibility whilst only a few argued that it is the sole responsibility of the waste generator from the study conducted in Spain (Escario 2020). Some were willing to participate given that they be educated more, bins be provided, a market for recyclables be provided and they be given incentives. A proportion of respondents refused to participate in recycling because it was perceived as a practice associated with poverty and social stigmatization. This system's trust deficit is the main cause why people do not engage in recycling programs and can only be solved if the council recognizes and honor household level sorting efforts.

Despite these barriers, the study identified a conditional willingness among residents to engage with recycling programmes. Respondents indicated readiness to participate given access to more

education, provision of dedicated recycling bins, availability of a local recyclables market, and the introduction of incentives. This finding is consistent with Tam and Anh (2024), who found that willingness to participate in plastic waste management in Vietnam was strongly conditional on perceived convenience and tangible personal benefit. The majority of respondents attributed primary responsibility for waste management to the government, with educational level significantly influencing this perception ($p = 0.027$). While not unfounded, this government-centric view risks fostering passivity at the household level. Wilson et al. (2013) argued that sustainable management of waste in developing countries requires a shared responsibility model in which households, government, civil society, and the private sector each fulfil clearly defined roles within an integrated governance framework, a model currently absent in Chinhoyi.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSIONS

The research evaluated the knowledge, attitudes, and practices of communities in Chinhoyi regarding municipal solid waste management (MSWM) through recycling:

- It was discovered that total participation in recycling programs is still low, despite reasonable knowledge of recyclable materials, especially among males and the significance of waste reduction.
- Educational attainment and income levels were significant factors influencing environmental concern and engagement in recycling activities, with higher education and income correlating with greater participation since they are the ones with funds.
- It was reviewed that informal waste handlers (CBOs), who are crucial to the grassroots management of waste, face numerous operational challenges including lack of protective clothing, transport difficulties, and absence of legally recognized operational sites.
- These resource constraints diminish their effectiveness and reduce community trust and participation in recycling initiatives.
- Furthermore, negative perceptions and stigma associated with recycling in certain segments of the community act as barriers to wider adoption of sustainable waste management practices

6.2. RECOMMENDATIONS

- There has to be equal participation among all the stakeholders in waste management be it the generator(residents), collectors (council), educators (schools), those in recycling business and the legislation bodies (EMA).
- A network focusing on waste management should be created, along with a platform for exchanging insights on how to convert waste into economic value.

- Collaboration between private sectors (waste recycling companies) and the government is essential for effective waste management as this ensures that all stakeholders involved in waste management and the circular economy participate in maintaining the technical, financial, and social sustainability of waste management systems.
- Bin liners should be distributed from all stakeholders involved in waste management, the likes of EMA, town council, solid waste enterprises to improve household waste separation.
- Implementation of public awareness on recycling programmes should be done at a large scale so as to influence communities on environmentally responsible behaviours.
- The law enforcement should curb those who practice waste burning and illegal disposal of waste.
- The Municipality of Chinhoyi should allocate at least one legal operational site per ward where CBOs can sort, store, and process recyclable materials without paying rent, especially in high density areas where waste generation is high.
- The council should implement community transferring centers.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

I'm Ethel Timoti, a student at Bindura University of Science Education studying towards a degree of Natural Resources Management conducting a research on, **“Assessing community perceptions and attitudes towards waste reduction through recycling programs in Chinhoyi Urban area.”**

This document seeks to collect information that will aid in suggesting ways to improve recycling initiatives among community members so as to decrease the issue of waste accumulation. All the answers and feedbacks will be greatly used for research purposes only and the responses will be confidential as no information will be shared with third parties. Your sincerity will be appreciated when answering the questions.

NOTE: (Please tick in the boxes below)

Section A: Personal Profile

1. Age (years): 18-24 ☐ 26-34 ☐ 35-44 ☐ 45-54 ☐ 55 and above ☐

2. Gender: Female ☐ Male ☐ Other ☐

3. Marital Status: Single ☐ Married ☐ Divorced ☐ Widowed ☐

4. Education level: Primary Level ☐ Secondary Level ☐ Tertiary Level ☐ Postgraduate Level ☐

5. Occupation: _____

6 Income Level: Less than USD\$100 ☐ USD\$100-\$500 ☐ USD\$500-\$1000 ☐ Over \$1000

☐

7. How long have you lived in your current community?

☐ Less than a year.

☐ 1-5 years

☐ 6- 10 years

☐ More than a decade

Section B: Awareness and Participation

7. Are you aware of general recycling, household hazardous waste and organic waste?

Very aware ☐

Not aware at all ☐

Somewhat aware ☐

8. Where did you first learn about recycling?

☐ School

☐ Media

☐ Local authority and EMA

Others (please specify) _____

9. Are you aware of materials that can be recycled?

Yes ☐ No ☐ not sure ☐

10. Which of the following materials do you think can be recycled? (Tick all that apply)

Plastic bottles ☐ Cardboard ☐ Metals ☐ Paper ☐ Glass Bottles ☐ Not sure ☐

11. Do you recycle items at home?

Yes ☐ No ☐

12. Are you aware of recycling programs in your community?

Very aware ☐ Not sure ☐ Not aware ☐

13. How often do you take part in these programs?

Always ☐ Sometimes ☐ Not, at all ☐

Sections C: Perceptions and Attitudes

14. How important is recycling to you?

☐ Extremely important

☐ Very Important

☐ Somewhat Important

☐ Not so important

☐ Not at all important

15. Do you think recycling can make a significant difference in Chinhoyi in terms of managing solid waste?

☐ Strongly agree

☐ Not sure

☐ Strongly disagree

☐ Disagree

16. Which of the following statements describes your current recycling behavior?

☐ I do not recycle and do not need to do so.

☐ I already recycle as much as I can and am satisfied with it.

☐ I recycle as much I can at the moment and plan to recycle more in the future

☐ I recycle but am finding it difficult to maintain this level.

17. Recycling protects the environment as well as preserves our natural resources. Do you think so?

☐ Strongly agree

☐ Agree

☐ Neutral

- ☐ Disagree
- ☐ Strongly disagree

18. Do you feel motivated to recycle?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

19. What motivates you to recycle (Select all that apply)

- ☐ Environmental concerns
- ☐ Financial benefits

Other (specify) _____

APPENDIX 2: CBOS INTERVIEW GUIDE

SECTION A (DEMOGRAPHIC INFORMATION)

- a. Name of respondent :
- b. Age :
- c. Sex :
- d. Position in the Organization :
- e. Duration in the Organization :
- f. Operational Location :

SECTION B (KNOWLEDGE OF WASTE AND RECYCLING)

2. Are you aware of waste management methods being done in Chinhoyi?

Yes or No

If yes, explain _____

3. As a group that is into recycling what can you say waste recycling is from your own definition?

Answer _____

4. What type of waste do you recycle? _____

5. How often do you take part in recycling? _____

6. How do you separate waste materials? _____

SECTION C: PERCEPTIONS TOWARDS RECYCLING

7. What made you interested in recycling this type of waste, as the primary area among other types of solid waste?

Answer _____
_____ - _____

8. Do you think your organization is playing an effective role of waste reduction in Chinhoyi?

Answer_____

9. Do you think recycling groups are well-promoted in Chinhoyi?

10. How do people who are not into recycling relate to you? Do other residents support or criticize you, and how do you handle it?

Answer_____

SECTION D: CHALLENGES

13. As a group that is in the path of recycling, what problems do you face when picking your materials?

Answer_____

14. Do you have an operating space where you work and store your equipment?

Answer_____

15. What are some of the challenges you face when it comes to buyers?

Answer_____

16. Problems you have that can be resolved by Environmental Management Agency and Chinhoyi Council?

Answer_____

17. Lastly, what do you think is hindering your organization from producing new materials from recyclable materials that you pick?

Answer_____

Ethel Timoti

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