



## Challenges of waste management in Filabusi town council of Matabeleland south province in Zimbabwe as from 2017 to 2019

Noel Dube<sup>1\*</sup> and Stella Dube<sup>2</sup>

<sup>1</sup>Department of Geography and Environmental Studies, Zimbabwe Open University, Matabeleland South Regional Campus, Gwanda, Zimbabwe

<sup>2</sup>Muchavezi High School, Gwanda, Zimbabwe  
noel.e.l.dube@gmail.com

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### Abstract

*The study was carried out to establish the challenges of waste management in Filabusi Town Council that is threatening the environment. The study used a mixed method approach combining qualitative and quantitative methods. The researchers opted to use a case study research design. 80 people comprising of 1 Town clerk, 9 ward councillors, 10 members of the resident association, 10 engineers, 40 refuse collection council employees and 10 staff members from the local government were used as the target population. Since the population was small all the 80 people were used in the survey. The findings indicate that the waste management systems used in Filabusi Town are landfill, refuse collection, burning and composting. The effects of poor waste management in Filabusi Town Council are that it contributes to breeding places for rodents and other nuisance animals which can be vectors of communicable diseases such as diarrhoea, dysentery and typhoid. Waste can also block drainage systems, increase the incidence of flooding, and lead to surface and ground water pollution. Other effects include injuries to refuse collectors as a result of contact glass materials, razor blades and syringes. Tissue damage or infection can also occur as a result of contact with waste materials through respiration, ingestion or skin contact. Hazardous chemicals from the waste can leak into the soil. The major challenges of waste management in Filabusi Town Council are the old waste collection vehicles which breakdown frequently because of their age and lack of service. The country is also experiencing a shortage of foreign currency to buy new waste collection cars and spare parts. There is also shortage of waste management staff and the unavailability of fuel due to the fuel crisis during that period. The withdrawal of donor support also had a negative impact on waste management activities. The collection of money from residents is erratic as residents are also negatively affected by the poor economic environment. The study achieved the research objectives where the systems used for waste management were identified, the effects of poor waste management, the challenges and ways to improve poor waste management.*

**Keywords:** Waste management challenges, vectors of communicable disease, skilled manpower.

### Introduction

**Background to the study:** Zimbabwe like the rest of the developing countries is facing serious waste management challenges. The modern world is faced with the challenge of increasing volumes and complexity of waste being generated which in turn is threatening public health and loss of aesthetic value. Accumulated waste in streets which often blocks drains is now a common sight in most developing countries. The waste usually comprises organic matter, metals, polythene bags, and wood among others. The waste can be hazardous and if it is not properly handled and disposed can have a negative impact on human health and also harm animal and plant organisms. The waste can also lead to a general breakdown or disruption of ecological systems and a loss of the aesthetic value of the landscape<sup>1,2</sup>.

Globally, it has been noted that waste management generation continues to grow due to methods of production that invariably produce waste that is not well managed. The Training and Research Support Centre, Civic Forum on Housing undertook

some research on amounts of waste collected in Europe, which revealed that 11.2 billion tonnes of solid waste are collected yearly in European countries due to population explosion as a result of urban migration<sup>3</sup>. The affluent western societies are producing ever increasing quantities of waste, presenting one of the most challenging global environmental problems<sup>4</sup>. There is a huge increase in waste generation but the levels of waste management such as collection are deteriorating.

Numerous reports from international organisations have warned that the rate at which waste is generated in African countries as evidenced in countries like Nigeria was alarming given the limited capacity to manage it<sup>5</sup>. In addition, it has been noted that waste management is one of the most critical environmental problems which has been worsening since the 1990s<sup>5</sup>. Waste management is now becoming one of the biggest challenges facing Southern African countries with ever increasing volumes of waste which is negatively impacting on human health and the environment. The rate at which waste generation is increasing far outstrips the ability of local authorities to manage it<sup>2</sup>.

Zimbabwe like most countries globally is faced with the critical problem of waste management. Filabusi is a growing town situated in the north east part of Gwanda Urban the provincial town of Matebeleland South Province in Zimbabwe. The town, like other growing towns in Zimbabwe, is facing challenges in waste management that can be traced back to the colonial period. Quite a number of laws and regulations were put in place by the colonial administration to strengthen urban administration, but no serious efforts were made to address emerging environmental problems as they regarded native towns as areas for a cheap and easily controlled labour force<sup>5</sup>. The situation has been worsened by an upsurge in rural to urban migration and the absence of waste minimization strategies in Filabusi Town Council.

The study has been triggered by the need to address the massive information gap regarding the full nature and extent of the waste management problem in Filabusi Town Council in Zimbabwe, since the situation has left the local residents with no choice but to tackle the problem mainly through the creation of illegal dumping sites. The study was further triggered by shear increase in volume of waste generated by urban residents with a deteriorating waste management system. The study was therefore undertaken to establish a full picture of the challenges of waste management in Filabusi Town Council.

**Statement of the Problem:** The problem of waste management is now a global problem which needs an integrated approach to reduce environmental burdens and derive economic benefits from its proper management. In Filabusi Town Council there seems to be a lack of an integrated approach to waste management as evidenced by the increase in illegal dumping sites in the area. There seems to be an increase in the volume and complexity of waste generated in the Town Council area. Therefore, the question that needs to be addressed is “What are the challenges faced in waste management in the Filabusi Town Council of Matabeleland South Province in Zimbabwe?”

**Aim of the study:** The broad aim of this study is to establish the challenges of waste management in Filabusi Town Council that is threatening the environment.

**Study objectives:** i. Identify the waste management systems used in Filabusi Town Council. ii. Assess the effects of poor waste management in Filabusi Town Council. iii. Identifying challenges of waste management in Filabusi Town Council.

**Assumptions of the Study:** It was assumed that local residents would cooperate by giving correct and accurate information during interviews and when filling questionnaires. The researchers also assumed that the recommendations of the study would help in improving waste management in future.

**Significance (or Importance) of the Study:** The study is of significant value to the various stakeholders interested in waste management. Various stakeholders will learn a lot from the

study in terms of waste management challenges faced by the Filabusi Town Council. The study will provide the government with ideas in the policy formulation to tackle waste management challenges not only in Filabusi but also in other local authorities. The study will provide local authorities alternative waste management strategies and also help them to evaluate the effectiveness of their waste management strategies. Academics and scholars can also use the study to identify research gaps for further study.

The findings of the study will be useful in the lives of the residents in that the study could help to improve waste management hence improves service delivery to the residents of Filabusi Town Council. In addition, the residents will be protected from diseases caused by poor waste management practices.

**Scope of the Study:** The Filabusi Town Council in Matebeleland South province will be the focus of the study, which will investigate the challenges of managing waste covering the period 2017 to 2019.

**Limitations of the Study:** This was a case study and as is the case with case studies the findings from the study may not generalised to other towns in the country or other towns anywhere else<sup>6</sup>. Even though it is also difficult to conclude that case study findings apply to other cases the findings can be deemed to apply to cases with similar conditions<sup>6,7</sup>. Generally most town councils have similar situations and the results can therefore be generalised to other town councils in Zimbabwe and even some developing countries. The researchers encountered some resistance from the local leadership which was skeptical of the motives of the study. However, the researchers managed to convince them that this was just an academic research which might lead to an improvement in waste management. Some of the residents were illiterate and these were assisted and also the questionnaire was user friendly, unambiguous and easy to understand.

**Organisation of the Study:** The paper began with an abstract giving a summary of the study, which was followed by the background to the study. This was followed by the statement of the problem, then the aims and objectives of the study. The paper then discussed the assumptions of the study, significance of the study, scope of the study, limitations of the study and then the ethical and legal considerations. The second part of the paper discussed the research methodology focusing on the research design, the population and sample, the instruments used, and then data presentation and analysis procedures. This was followed by the results and discussion. The paper ends with a conclusion.

## Methodology

**Introduction:** The research methodology will discuss the research design that will be used to carry out the study.

This will be followed by a discussion of the research instruments to be used to capture information on waste management in Filabusi. The last part of the research methodology will discuss data presentation and analysis procedures.

**Research Design/plan:** A research design is a plan for research that guides the researcher in data collection and analyzing data<sup>10</sup>. A research design has also been described as the structure of the research, which provides the cement that holds the research project together and include the various aspects of the methodology<sup>11</sup>. It has also been described as a plan showing in what way, when and where a research is carried out<sup>12</sup>. A research design helps in getting answers to the questions under study.

It is a plan for research that guides the collection of data and the method of analysis that are performed<sup>13</sup>. Research design involves the description of the format and theoretical structure under which the study would be carried out. It involves the discussions of the steps to be taken in order to safeguard the validity and authenticity of the findings<sup>10</sup>.

A mixed method approach combining qualitative and quantitative methods was used in this research. A mixed method approach provides a better understanding of the research problem than either method alone<sup>13</sup>. A survey design will be used as it provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population. Surveys are useful in describing the characteristics of a large population and no other research method can provide this broad capability, which ensures a more accurate sample to gather targeted results in which to draw conclusions and make important decisions<sup>13</sup>.

A case study research design was adopted for this research because it is appropriate to the problem and the advantages it possess. A case study is an example of a qualitative research design<sup>14</sup>. A case study design is a strategy for doing research which involves an empirical investigation of particular contemporary phenomenon within its real life context using multiple sources of evidence<sup>15</sup>. Case studies are in depth investigations of a single person or group. In this research, a case study of waste management challenges in Filabusi Town Council shall be done. The case study shall be enriched with documents, interviews, observations, and questionnaires.

**Population and sample for the study:** The target population of this study was 80 people comprising of 1 Town clerk; 9 ward councillors, 10 members of the resident association; 10 engineers; 40 refuse collection council employees and 10 staff members from the local government. In general a sample size which is at least 10% of the population is adequately representative of the population under study<sup>10</sup>. Since the population was small all the 80 people were used in the survey.

**Research Instruments:** Research instruments are data gathering tools, which are used for research<sup>15</sup>. The research instruments chosen for this study were secondary data sources, observations, interviews and questionnaires. Observations were chosen because they are a direct technique which is factual and does not rely on personal opinion and also compliments other methods. They were used to validate the messages obtained in the interviews. Interviews were used because they provide a chance to develop a relationship between the researcher and the respondent and also give a high level of flexibility. It can be further noted that interview method yields a great deal of useful information and allows the researcher to use verbal and non-verbal cues, to clarify doubts and ensured that the interviewee's responses are clearly understood by repeating or rephrasing their answers to questions<sup>16</sup>. Interviews give an opportunity for the researcher to have face-to-face interaction with the respondents. Interviews were done with the Town Clerk.

Questionnaires were used because they reduce they reduce bias by limiting the interaction between the respondent and the researcher. They can also reduce travel costs since they can be transported in bulk and also allow for anonymity which tends to encourage honesty where there are sensitive questions<sup>18</sup>. Questionnaires unlike interviews make it easier to obtain information from a large group of people<sup>13</sup>. However questionnaires have a disadvantage in that there is inadequate opportunity to build rapport with the respondents. It is also difficult to follow up non-return omissions and inadequate answers<sup>18</sup>. Further probing of answers to questions or clarifications of unclear questions will not be possible when using questionnaires.

**Data Presentation and Analysis Procedures:** Data obtained from the study will be categorised and presented in tables and graphs to address the purpose of the study. Tables and graphs summarize data and give a good visual impression which facilitates data comparison. Quantitative and qualitative analysis of the data will be done.

## Results and discussion

**Introduction:** The results and discussion section will look at data presentation and analysis of the data collected. The data will be presented with the aid of frequency tables and bar graphs because they provide effective illustrations in depicting relations and trends. The discussion centered on the following objectives: i. To identify the waste management systems used in Filabusi Town Council. ii. To assess the effects of poor waste management in Filabusi Town Council. iii. To identifying challenges of waste management in Filabusi Town Council.

**Questionnaire Response Rate:** 80 questionnaires were issued to respondents and 78 were returned giving a response rate of 97.5%.

The major reason for the high response rate might be that the study was done during the Covid -19 lockdown which restricted residents to their homes. Table-1 shows the response rate.

**Table-1:** Questionnaire Response Rate.

Category	Frequency	Percent
Number of questionnaires not returned	2	2.5%
Number of questionnaire returned	78	97.5%
Number of questionnaires distributed	80	100%

**Respondent’s Demographic Data:** The respondents comprised of 59 (76%) males and 19 (24%) females. The analysis shows that men were the majority who dominate as councillors, engineers, refuse collection employees. The finding clearly shows that despite women’s relatively high involvement in waste disposal at local level, men have access to institutions that set priorities and make decisions regarding waste management infrastructure. The trend is consistent with the findings of Kjelstrom, Friel and Dixon who noted that much of female participation in waste management is limited and they are mostly engaged primarily as daily wage workers<sup>19</sup>.

The respondents were categorised according to their occupation as shown in Table-2.

**Table-2:** Occupation of Respondents.

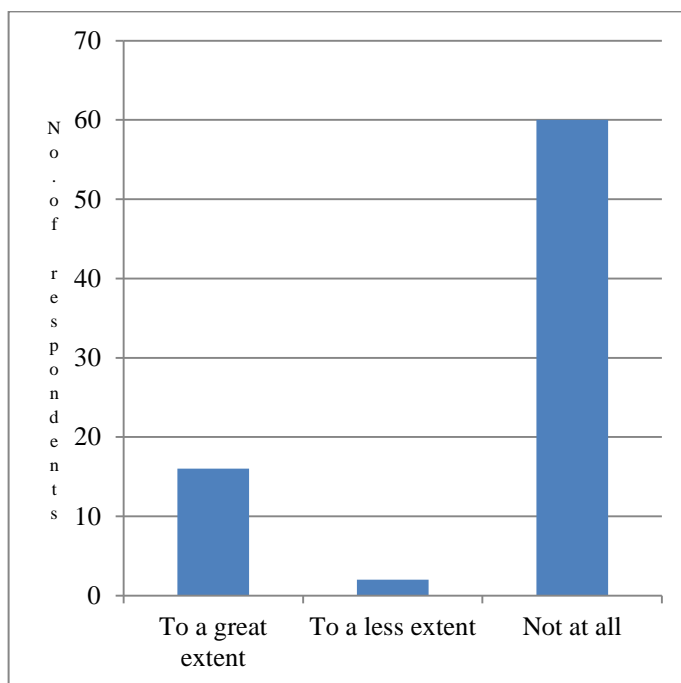
Occupation	Frequency	Percentage
Ward Councillor	10	12.8%
Resident’s Association	20	25.6%
EMA	12	15.4%
Refuse Collection	30	38.5%
Local Government	6	7.7%
Total	78	100%

The data shows that 6 (7.7%) were local government employees, 10 (12.8%) said they were ward councillors, 12 (15.4%) said they were engineers, 20 (25.6%) said they were resident association members and 30 (38.5%) said they were refuse collection employees.

**Waste Management System used in Filabusi Town Council:** The respondents identified trucking system, use of landfill, composting, refuse collection and burning as the waste management system used in responses to the interview question “what systems do you use to manage waste in Filabusi Town

Council?” The study revealed that waste in Filabusi Town council is collected using a truck on every Tuesday of the week and sometime the residents burn the waste such as papers and other plastics. This clearly shows that the participants were aware of the methods of managing waste at their disposal. The finding also corroborates the findings of Tsiko and Togarepi who argues that the most used methods in managing waste are landfill, composting, refuse collection and burning<sup>20</sup>.

**Level of satisfaction with waste management system:** The respondents were asked to rate their level of satisfaction with the waste management system used in Filabusi and the results are shown in Figure-1.



**Figure-1:** The level of satisfaction with the waste management methods being used in Filabusi Town Council (N=78).

The presentation shows that 2 (2.6%) said to a less extent, followed by 16 (20.5%) who said to a greater extent and the majority 60 (76.9%) said they were not satisfied with the system of waste management in Filabusi Town Council. The results shows that the majority of the residents were not satisfied with the waste management methods being used. This is in line with findings by Kjelstrom, Friel and Dixon who argue that despite different waste management methods in place people are fuming over the effectiveness of waste management in urban areas, which is a growing problem and a threat to both public and environmental wellbeing<sup>19</sup>.

**The effects of poor waste management:** The respondents were asked whether poor waste management in Filabusi Town Council has a negative impact on the environment. The data collected is presented in Table-3.

**Table-3:** Poor waste management has a negative impact effect on the environment in Filabusi Town Council (N=78).

Category	Frequency	Percent
No idea	16	20.5
Strongly agree	8	10.3
Strongly disagree	20	25.6
Disagree	4	5.1
Agree	30	38.5
Total	78	100.0

Table-3 shows the responses to the question whether poor waste management has a negative impact on the environment in Filabusi Town Council. The presentation shows that 4 (5.1%) said they disagree, 8 (10.3%) who said they strongly agree, 16 (20.5%) said they had no idea followed by 20 (25.6%) said they strongly agree and the majority 30 (38.5%) said they agree that poor waste management has a negative effect on the environment in Filabusi Town Council. Further analysis shows that poor waste management is seriously spoiling the environmental conditions as dumping and pollution are visible everywhere in Filabusi Town Council and increasing day by day. The trend is supported by Tsiko and Togarepi who note that poor waste management is contributing to a worsening environmental degradation of the communities in most developing countries<sup>20</sup>. For instance uncollected waste is polluting the urban environment and proving to be an eyesore.

The respondents were asked a question whether poor waste management leads to the proliferation of breeding places for disease carrying organisms in Filabusi Town Council and the results are presented in Table-4.

**Table-4:** Poor waste management leads to the proliferation of breeding places for disease carrying organisms.

Category	Frequency	Percent
No idea	12	15.4
Strongly disagree	10	12.8
Strongly Agree	24	30.8
Disagree	6	7.7
Agree	26	33.3
Total	78	100.0

The presentation shows that 6 (7.7%) said they disagree, 10 (12.8%) said they strongly disagree, 12 (15.4%) said they had no idea, 24 (30.8%) said they strongly agree and the majority 26 (33.3%) said they agree that poor waste management leads to the proliferation of breeding places for disease carrying organisms in Filabusi Town Council.

The findings corroborate those by Masocha and Tevera on the effects of pollution who argue that illegal dumping of waste is responsible for urban biological vector borne diseases in developing countries<sup>21</sup>.

The respondents were asked whether poor waste management leads to blockage of drainage systems, flooding and the pollution of surface and ground water and the results are presented in Table-5.

**Table-5:** Poor waste management leads to blockage of drainage systems, flooding, and the pollution of surface and ground water.

Category	Frequency	Percent
No idea	11	14.1
Strongly disagree	13	16.7
Strongly Agree	27	34.6
Disagree	10	12.8
Agree	17	21.8
Total	78	100.0

The presentation shows that 10 (12.8%) said they disagree, 11 (14.1%) said they had no idea, 13 (16.7%) said they strongly disagree, 17 said they agree and the majority 27 (34.6%) said they strongly agree that poor waste management leads to blockage of drainage, flooding, and the pollution of surface and ground water in Filabusi Town Council.

This is further evidenced by the overflowing sewage in Filabusi Town Council. The trend is supported by Mapira who argues that during the rainy season the uncollected waste is washed into the drainage system thereby clogging it, which results in flooding and the pollution of surface and ground water. This has a negative impact on vital aquatic organisms and resources<sup>22</sup>.

The respondents were then asked whether poor waste management may lead to injuries or infections and the results are shown in Table-6.

**Table-6:** Injuries and infections due to poor waste management (N=78).

Category	Frequency	Percent
No idea	10	12.8
Strongly disagree	12	15.4
Strongly agree	25	32.1
disagree	8	10.3
Agree	23	29.5
Total	78	100.0

The presentation shows that 8 (10.3%) said they disagree, 10 (12.8%) said they had no idea, 12 (15.4%) said they strongly disagree, 23 (29.5%) said they agree and the majority 25 (32.1%) said they strongly agree that poor waste management leads to injuries and infections through respiration, ingestion or skin contact in Filabusi Town Council. This clearly shows that the residents in Filabusi Town Council were exposed to injuries. The trend is supported by Tsiko and Togarepi<sup>20</sup> who also found that poor waste management leads to health effects such as injuries and infections.

**The challenges of waste management in Filabusi Town Council:** The respondents were asked whether the lack of foreign currency for purchasing vehicles and spare parts leads to poor waste management in Filabusi Town Council. The data is presented in Table-7.

**Table-7:** Unavailability of foreign currency for purchasing waste management equipment leads to poor waste management.

Category	Frequency	Percent
No idea	9	11.5
Strongly disagree	10	12.8
Strongly agree	31	39.7
disagree	12	15.4
Agree	16	20.5
Total	78	100.0

The presentation shows that 9 (11.5%) said they had no idea, 10 (12.8%) said they strongly disagree, 12 (15.4%) said they disagree; 16 (20.5%) said they agree and the majority 31 (39.7%) said they strongly agree that the lack of foreign currency for purchasing waste management equipment was affecting waste management in Filabusi Town Council thereby threatening service delivery. The findings corroborate that of Tsiko and Togarepi, who argue that the lack of foreign currency as a result of economic challenges faced by the country is one of the challenges faced in waste management<sup>20</sup>.

The respondents were then asked about their opinion on whether the lack of skilled manpower and the unavailability of fuel was a major challenge for waste management and the results are shown in Table-8.

**Table-8:** Lack of skilled manpower and the unavailability of fuel (N=78).

Category	Frequency	Percent
No idea	11	14.1
Strongly disagree	10	12.8
Strongly agree	30	38.5
disagree	10	12.8
Agree	17	21.8
Total	78	100.0

The presentation shows that 10 (12.8%) said they strongly disagree, 10 (12.8%) said they disagree, 11 (10.3%) said they had no idea, 17 (21.8%) said they agree, 30 (38.5%) said they strongly agree that lack of skilled manpower and the unavailability of fuel is a challenge faced in managing waste by Filabusi Town Council. This clearly suggests that expert advice from engineers and fuel to facilitate town council operations is a serious challenge affecting Filabusi Town Council. The trend is consistent with the findings of Mapira who argues that councils in Zimbabwe are losing a lot of skilled employees as the result of low salaries and poor working conditions<sup>22</sup>. This has affected service delivery in most developing countries.

The next question for the respondents was whether the withdrawal of donor support was a challenge faced in waste management in Filabusi Town Council and the results are shown in Table-9.

**Table-9:** Whether the withdrawal of donor support is a challenge faced in managing waste by Filabusi Town Council (N=78).

Category	Frequency	Percent
No idea	9	11.5
Strongly disagree	10	12.8
Strongly agree	30	38.5
disagree	6	7.7
Agree	23	29.5
Total	78	100.0

The presentation shows that 6 (7.7%) said they disagree, 9 (11.5%) said they had no idea, 10 (12.8%) said they strongly disagree, 23 (29.5%) said they agree and the majority 30 (38.5%) said they strongly agree.

Therefore, to be dependent is to be disabled. This means that the Filabusi Town Council is over-relying on the levies paid by the local residents and local government grants and all these sources are not paying their dues as expected.

The findings corroborate those of Mapira who also found that local government was not adequately supporting local authorities through grants due to the withdrawal of donor support<sup>22</sup>.

The next question was whether corruption and maladministration were challenges to proper waste management in Filabusi and the results are shown in Table-10.

**Table-10:** Corruption and maladministration (N=78).

Category	Frequency	Percent
No idea	9	11.5
Strongly disagree	11	14.1
Strongly agree	30	38.5
Disagree	6	7.7
Agree	22	28.2
Total	78	100.0

The presentation shows that 6 (7.7%) said they disagree, 9 (11.5%) said they had no idea, 11 (14.1%) said they strongly disagree, 22 (28.2%) said they agree and the majority 30 (38.5%) said they strongly agree corruption and maladministration is a challenge faced in managing waste by Filabusi Town Council.

This further suggests that resources earmarked to develop and maintaining waste disposal machines is being siphoned for personal benefits. This finding corroborate that of Masocha and Tevera, who argue that corruption was the major problem of waste management as resources for waste management is diverted for other causes<sup>21</sup>.

**Ways to improve waste management in Filabusi Town Council:** The respondents were asked about ways to improve waste management in Filabusi Town Council. The data collected is presented in Table-11, 12, 13 and 14.

The presentation shows that 4 (5.1%) said they disagree, 7 (9%) said they had no idea, 11 (14.1%) said they strongly disagree, 26 (33.3%) said they strongly agree and the majority 30 (38.5%) said they agree that robust public awareness and anti-waste campaigns can improve waste management in Filabusi Town

Council. This suggests that there is need to design campaigns to improve awareness on the need for proper waste management. The trend is consistent with that of Makwara and Magudu who note that there is a need for public awareness campaigns on proper waste disposal in order to address the problem of poor waste management<sup>23</sup>.

**Table-11:** Robust public awareness and anti-waste campaigns (N=78).

Category	Frequency	Percent
No idea	7	9.0
Strongly disagree	11	14.1
Strongly agree	26	33.3
Disagree	4	5.1
Agree	30	38.5
Total	78	100.0

**Table-12:** Cleanup campaigns and banning use of plastic bags (N=78).

Category	Frequency	Percent
No idea	9	11.5
Strongly disagree	10	12.8
Strongly agree	31	39.7
Disagree	6	7.7
Agree	22	28.2
Total	78	100.0

The presentation shows that 6 (7.7%) said they disagree, 9 (11.5%) said they had no idea, 10 (12.8%) said they strongly disagree, 22 (28.2%) said they agree and the majority 31 (39.7%) said they strongly agree that cleanup campaigns and banning use of plastic bags can improve waste management in Filabusi Town Council.

This clearly means that there is need to commit the people or residents of Filabusi Town Council to heed and participate in cleanup campaign.

The government of Zimbabwe has put in place some cleanup campaigns as a way to improve waste management. In response, many corporate bodies have given financial support for clean-up campaigns.

**Table-13:** Recycling (N=78)

Category	Frequency	Percent
No idea	11	14.1
Strongly disagree	13	16.7
Strongly agree	28	35.9
Disagree	8	10.3
Agree	18	23.1
Total	78	100.0

The presentation shows that 8 (10.3%) said they disagree, 11 (14.1%) said they had no idea, 13 (16.7%) said they strongly disagree, 18 (23.1%) said they agree and the majority 28 (35.9%) said they strongly agree that recycling can improve waste management in Filabusi Town Council in Filabusi Town Council.

This further suggests that recycling waste was the panacea to the problem of poor waste management in Filabusi Town Council and this involves collecting and sorting the discarded materials suitable for recycling. The trend is supported by Makwara and Magudu who note that recycling is one of the options which can improve waste management<sup>23</sup>.

**Table-14:** Whether partnerships can improve waste management in Filabusi Town Council (N=78).

Category	Frequency	Percent
No idea	10	12.8
Strongly disagree	13	16.7
Strongly agree	23	29.5
disagree	12	15.4
Agree	20	25.6
Total	78	100.0

The presentation shows that 10 (12.8%) said they had no idea, 12 (15.4%) said they disagree, 13(16.7%) said they strongly disagree, 20(26.6%) said they agree and the majority 23(29.5%) said they strongly agree that partnerships can improve waste management in Filabusi Town Council. This further suggests that the Filabusi Town council must seek partnership to investment in the waste management sector. This corroborates a study by Makwara and Magudu, which says partnerships, has become accepted practice since the municipalities on their own are failing to manage waste in many developing countries<sup>23</sup>.

## Conclusion

It can be concluded that the waste management systems used in Filabusi Town are landfill, refuse collection, burning and composting. The effects of poor waste management in Filabusi Town Council are that it contributes to the proliferation breeding places for disease carrying organisms. Other effects include blockage of drainage systems, flooding and the pollution of surface and ground water, injuries from sharp objects or infections through respiration, ingestion or skin contact, hazardous chemicals that leak into the soil and emissions of gas and chemicals that destroy the ozone layer.

The major challenges of waste management in Filabusi Town Council are lack of foreign currency for purchasing waste management equipment, lack of skilled staff, the unavailability of fuel, the frequent breakdown of waste collection vehicles and the non-payment of grants by the local government. The ratepayers are also not paying their dues on time. The study achieved the research objectives where the systems used for waste management, the effects of poor waste management, the challenges and ways to improve poor waste management were identified.

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## References

- Guerrero, L. A., Maas, G., & Hogland, W. (2013). Solid waste management challenges for cities in developing countries. *Waste management*, 33(1), 220-232.
- Chikuruwo, J. (2006). Immerging Issues in Urban Waste Management. In Proceedings of the Emerging Issues in Urban Waste Management Workshop organized by Practical Action for Southern Africa, Newlands, Harare, at Jameson Hotel (Vol. 10).
- TARSC, C. (2010). Assessment of solid waste management in three local authority areas of Zimbabwe. Training and Research Support Centre (TARSC), Civic Forum on Housing (CFH) Report of a Community Based Assessment. Discussion paper TARSC Harare.
- United Nations Environment Programme (2003). Solid Waste Management.
- World Health Organisation (WHO) (2017). Safer Management of Wastes.
- Flick, U. (2022). An introduction to qualitative research. An introduction to qualitative research, 1-100.



7. Cohen, M., and Marion, R. (2011). *Imperial Education*. Pretoria: UNISA
8. Leedy, P. D., & Ormrod, J. E. (1980). *Practical research*. New York: Macmillan.
9. Cloward C. and Ohlin, K. (2002). *Data collection in context*. London: Longman
10. Kothari, C. R. (1985). *Research methodology: Methods & techniques*. Wiley Eastern, New Delhi
11. Harwell, M. R. (2010). *Research design in qualitative, quantitative, & mixed methods*. University of Minnesota.
12. Holloway, I. (1997). *Basic concepts for qualitative research*. (No Title).
13. Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
14. Cohen, L., & Manion, L. (1994). *Research methods in education*. 4<sup>th</sup> edition Routledge: London.
15. Driscoll, D. L., Appiah-Yeboah, A., Salib, P., & Rupert, D. J. (2007). *Merging qualitative and quantitative data in mixed methods research: How to and why not*.
16. Gwimbi, P., & Dirwai, C. (2003). *Research methods in geography and environmental studies*. Zimbabwe Open University, Harare.
17. Bernard, H. R. (2013). *Social research methods: Qualitative and quantitative approaches*. Sage.
18. Saunders, M. (2014). *Research Methods for Business Students*, 6th edn.
19. Kjelstrom, T., Friel, S. and Dixon, J. (2007). *Urban Environmental Health*. *Journal of Urban Environmental Health*. May: 84(3supp): 86-97
20. Tsiko, R. G. & Togarepi, S. (2012). A situational analysis of waste management in Harare, Zimbabwe. *Journal of American Science*, 8(4), 692-706.
21. Masocha, M., & Tevera, D. S. (2002). Open waste dumps in Victoria Falls Town: Spatial patterns, environmental threats and public health implications. *Geographical Journal of Zimbabwe*, (33-34), 9-19.
22. Mapira, J. (2011). Challenges of solid waste disposal and management in the city of Masvingo, Zimbabwe. *Journal of Social Development in Africa*, 26(2), 67.
23. Makwara, E. C., & Snodia, S. (2013). Confronting the reckless gambling with people's health and lives: Urban solid waste management in Zimbabwe. *European Journal of sustainable development*, 2(1), 67-67.