



THE IMPLEMENTATION AND CHALLENGES OF SCHOOL-BASED SOLID WASTE MANAGEMENT

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ABSTRACT

This study explored the implementation and challenges of school-based solid waste management in two non-central public elementary schools in the District of Dueñas from November 11, 2025 to February 15, 2026. It aimed to answer the following questions: (1) What are the current implementation practices? (2) What challenges and strategies are encountered by school heads, teachers, and learners? and (3) How are these programs monitored and evaluated for effectiveness and sustainability? The study was grounded on constructivist epistemology which viewed knowledge as being shaped by participants' actual experiences. The study was guided by Waste Management Theory, along with the Waste Hierarchy, Circular Economy, and the Monitoring and Evaluation (M&E) Framework. A qualitative narrative inquiry approach was used. Purposive sampling was used to select six participants, including two school school heads, two teachers, and two students. With informed consent obtained, data were collected through in-depth, semi-structured interviews utilizing a researcher-made guide. Trustworthiness was ensured through expert validation, member checking, and systematic documentation. Eight themes emerged under three categories: (1) Implementation Practices of Solid Waste Management Programs (2)

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Challenges and Strategies in Solid Waste Management Implementation (3) Monitoring and Evaluation for Effectiveness and Sustainability. Findings revealed that despite schools have adequate facilities, waste management procedures, and student involvement, students' attitudes and behaviors have a direct influence on the effectiveness of these initiatives. There are still gaps in knowledge and practice, and problems like inconsistent waste collection show a dependence on external assistance. Monitoring, collaboration with stakeholders, and reinforcement help to increase sustainability.

Keywords: *Circular Economy, Challenges, Constructivist Epistemology, Implementation, School-based, Solid Waste Management, Waste Hierarchy*

INTRODUCTION

Waste is an environmental problem that affects communities, including homes and schools. People are usually careless about their trash that they just put everything in one bin. As the source of education begins at home, children should learn to distinguish between different types of waste: biodegradable, non-biodegradable, recyclable waste. This knowledge is the cornerstone for learning how to segregate waste. However, even with a proper understanding of this type of wastes, the absence of actual implementation can also remain a problem.

According to Republic Act 9003-Ecological Solid Waste Management Act of 2000, one of the solid wastes comes from all discarded institutional waste. A school produces numerous types of solid waste which include food, paper materials, plastic products, fallen leaves, and

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electronic equipment. Thus, school heads faced various challenges when managing solid waste disposals in their respective schools.

There are numerous problems in managing solid waste disposals at schools including lack of sufficient knowledge and training to school heads and teachers, teachers who do not properly and consistently teach disposal methods to learners, and a shortage of waste collection systems makes learners and stakeholders of the school dispose their trash at any available location rather than using appropriate resources and facilities (Waste Cost Solution, 2022). The situation is also compounded by other factors including shortage of funds, insufficient recycling facility and programs. This led to various problems in health, environment and socio-economic aspects (Molina, R. et al, 2021). Unmanaged waste disposal causes blocked drains and creates health risks from bacterial development that occurs due to food remnants scattered throughout the area (Waste Cost Solution, 2022). It serves as a breeding ground for disease vectors, contributes to global climate (World Bank, 2022).

The Seal of Good Local Governance (SGLG) encourages local governments to promote sustainability, which includes effective solid waste management. With this, local governments develop programs and local ordinances to promote proper waste segregation, recycling, and appropriate waste disposal. While the Seal of Good Local Government (SGLG) promoted environmental protection through solid waste management initiatives, this remains a significant problem in assessing its actual implementation in schools. This gap between policy and practice emphasizes the need to assess how SGLG-driven initiatives and local ordinances are translated into effective, school-based solid waste management programs.

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MATERIALS AND METHODS

Research Methodology

This chapter presents the research method, research design, participants of the study, sampling design, data-gathering procedures, research instrument, and data analysis used in the study. The purpose of this study was to explore the implementation and challenges of school-based solid waste management in two non-central public elementary schools in the District of Dueñas, during the school year 2025-2026.

Research Method

The research method utilized in the study was qualitative research using in-depth interview.

The interviewer with the interviewee during the interview was allowed to sit together at a distance and to think about the series of questions about a certain issue. The aim was to get the main or the necessary views of the participants in a certain issue in a social context through the responses of the participants to the questions (Patton, 2015).

Research Design

This study used a qualitative narrative inquiry method to describe and understand the implementation and the challenges of school-based solid waste management in the Province of Iloilo. This focuses on getting detailed and meaningful information from people through their experiences, stories, and opinions (Creswell, 2014). It also collects personal experiences from participants to understand the school's situation in solid waste management. Through

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their experiences, the researcher learned how the school manage their solid waste and the challenges they face in solid waste management (Clandinin, 2019).

Participants of the Study

Table 1

Profile of the Participants

Pax No.	Code Name	Sex	Position
1	SH1	Female	Principal II
2	SH2	Female	Principal I
3	T1	Female	Teacher III
4	T2	Female	Teacher III
5	L1	Female	Grade VI
6	L2	Female	Grade VI

Inclusion criteria. The participants of this study were carefully selected based on specific qualifications to ensure that they can provide meaningful and relevant information about the implementation and challenges of school-based solid waste management. The following are the criteria for selecting participants: **One (1) School Head.** The participant must be a school head, preferably holding a leadership position such as Principal, with experience in managing school programs, especially those related to solid waste management in the school. **One (1) Teacher.** The teacher must be actively involved in environmental or school programs, particularly those concerning solid waste management, and should have the ability to guide and influence learner’s participation in such programs. Preferably an SBM WinS Coordinator of the school. **One (1) Learner.** The participant must be a Grade 6 learner who is mature

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enough to clearly express their experiences and participation in the school's solid waste management activities. The learner should have firsthand experience in school-based environmental programs and projects.

Sampling Design

This study used a Purposive Sampling to select participants who are directly involved in the planning, implementation, or experience of school-based solid waste management programs. A total of six (6) participants were selected from two (2) public schools (2 non-central school) within the District of Dueñas.

According to John W. Creswell in his book "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" (2014), the sample size in qualitative research is not about quantity but about depth. Creswell discusses the idea of purposeful sampling, where researchers select participants who are specifically knowledgeable or experienced regarding the research topic. This approach allows the researcher to gather rich, detailed data that can offer profound insights into the research question.

Research Instrument

Researcher-made instrument was utilized in this research study. It was validated and adopted from reliable sources.

The questionnaire consists of two parts. Part one refers to the personal information of the participants. Part two includes questions that participants need to answer. The questions is divided into three (3) parts: The first part is the current practices involved in the implementation of school-based solid waste management with seven (7) specific questions:

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General Overview, Waste Segregation, Learner's Participation, Compliance and Discipline, Partnership, Waste Collection System, and Awareness and Advocacy. The second part includes the challenges encountered and how to address them composed of three (2) specific questions. The third part includes the monitoring and evaluation of the implementation of school-based solid waste management with one (6) specific question.

The questions were made by the researcher based on the provisions of the Municipal Ordinance on Solid Waste Management of Dueñas, Iloilo and based on the Reflection Paper About Solid Waste Management by Mateusz Brodowicz (2024), which presents an individual's perspective on the practices, implementation, and challenges managing solid waste.

The Municipal Ordinance No. 04, series of 2006 of Dueñas, Iloilo, also known as the Ecological Solid Waste Management Ordinance, serves as the local guide for the proper collection, segregation, recycling, and disposal of waste. It requires schools and institutions to keep their surroundings clean, store waste properly, practice recycling and composting, and coordinate with the municipal government for waste collection. The ordinance also prohibits open burning and illegal dumping of waste. To strengthen this effort, the Municipal Ordinance No. 18, series of 2019, or the "Plastic Baylo Bugas" Program, encourages residents, including schools, to collect and exchange plastic waste for rice. This program promotes environmental awareness, community participation, and plastic reduction. Together, these ordinances aim to maintain cleanliness, protect health, and support sustainable waste management in the municipality.

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Validity of the Research Instrument

The procedure begins with the validation of the researcher-made instrument which was based on the objectives of the study. The interview questions were then reviewed and validated by experts. Their suggestions and comments were carefully considered and used to improve the questions before they were used in the actual data gathering.

Data Gathering Procedures

In conducting this qualitative study, the researcher observes a systematic and ethically guided process of data collection to ensure the reliability and validity of the gathered information. The procedure begins with the validation of the researcher-made instrument which was based on the objectives of the study. The interview questions were then reviewed and validated by experts. Their suggestions and comments were carefully considered and used to improve the questions before they were used in the actual data gathering.

Next, the researcher secured the necessary permissions and approvals from concerned authorities and stakeholders involved in the research. The researcher prepared a Letter for Approval, addressed to the institution's research committee or academic adviser, seeking permission to proceed with the study. This was followed by a Letter for the Schools Division Superintendent of Iloilo to request endorsement and approval to conduct the study within schools under their jurisdiction. Similarly, a Letter for the Public Schools District Supervisor was prepared to formally communicate the intent to carry out the research in public schools within the selected district. The researcher reached out to the participants of the study. The researcher prepared a Letter for School Heads of the participating schools to request their

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approval and support. Along with this, a Consent Form for School Heads were issued to formally document their willingness to allow the study to be conducted in their respective institutions. Letters for Teachers were distributed, formally inviting them to participate and explaining the purpose and nature of the research. To uphold ethical standards, a Consent Form for Teachers accompanied this letter to document their voluntary participation. Likewise, a Letter for Learners were prepared to explain the study to the pupils involved, accompanied by a Consent Form for Parents or Guardians, ensuring that learners' participation is granted with parental approval.

For the actual data gathering, the researcher utilized a Researcher-made Interview Guided Questionnaire, which served as the primary tool in gathering qualitative data. The interviews conducted in a semi-structured manner to allow participants the freedom to express their thoughts while ensuring that the researcher collects the necessary information. All Responses of the Participants was recorded through detailed notes and, if permitted, audio recordings for transcription and analysis.

To ensure the accuracy, clarity, and appropriateness of the research instruments, the researcher consulted a language and content experts. A Letter to a Grammarian and a Letter to an External Grammarian were sent to request assistance in reviewing and refining the language of the interview guide. Also, a Letter to Validators were addressed to validate the relevance, accuracy, and alignment of the research instrument with the study's objectives.

To further strengthen the credibility and transparency of the study, Documented Pictures of the Interview Process were taken, provided that consent has been given by

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participants. These images served as proof of the conducted interviews and were archived in accordance with ethical standards and data privacy regulations.

In summary, the data collection procedure for this qualitative study emphasizes ethical considerations, procedural correctness, and methodological rigor. Every step, from obtaining approvals, securing consents, validating instruments, gathering data, to documenting interviews were conscientiously observed to ensure the integrity and trustworthiness of the research findings.

Data Analyses

In this qualitative research, the data gathered from the participants was carefully studied and organized through Thematic Analysis. This method helped the researcher identify common ideas, experiences, and challenges shared by the participants regarding the implementation of school-based solid waste management in the Province of Iloilo. The researcher followed the step-by-step process provided by Braun and Clarke (2006) in analyzing the data.

First, the researcher familiarized the data by reading the transcripts of the interviews several times. This step helped the researcher understand the information given by the participants and get a general idea of the topics discussed.

Second, the researcher began coding the data. In this step, important words, phrases, or sentences related to the research topic were marked and labeled. These codes helped in identifying which parts of the data are connected or talk about the same ideas.

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Third, the researcher reviewed and refined the codes. This means checking all the codes made in the second step and seeing which ones are related or connected. The researcher looked for patterns or similarities among the codes, which will later become possible themes.

Fourth, the researcher grouped the codes into themes. Themes are bigger ideas that connect several codes together. By doing this, the researcher can easily see the common experiences, opinions, or challenges shared by the participants.

Fifth, the researcher defines and name the themes. In this step, a short description for each theme is written, and a clear and descriptive name are given to each one. These names should capture the main idea of the theme based on the information from the participants.

Lastly, the researcher analyzed and interpreted the themes. The researcher explained how these themes are related to each other and how they answer the research questions or meet the objectives of the study. The findings were connected to what was mentioned in related studies or literature.

By following this systematic process, the researcher was able to carefully and meaningfully interpret the data gathered through narrative inquiry, providing a clear picture of the implementation and challenges of school-based solid waste management in the Province of Iloilo.

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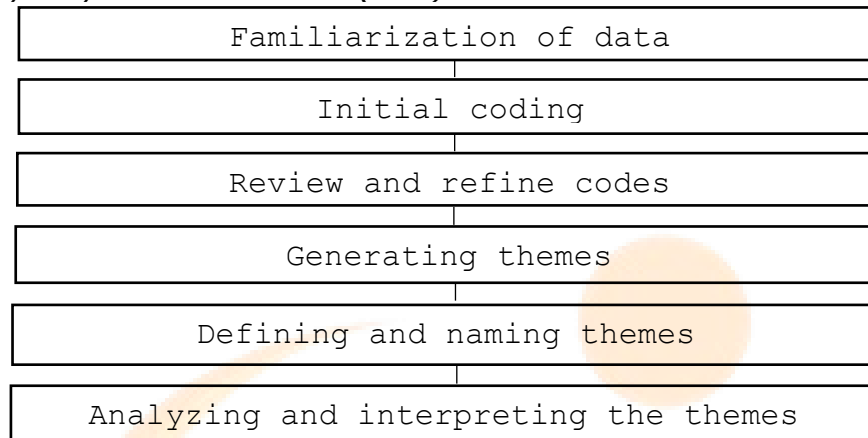
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Figure 5

Thematic Analysis by Braun and Clarke's (2006)



RESULTS AND DISCUSSIONS

This qualitative study explored how two non-central public elementary schools in the District of Dueñas implement and manage school-based solid waste management. Using the Narrative Inquiry approach, the study focused on the actual experiences and stories shared by six purposively selected participants in two non-central schools, composed of two school heads, two teachers, and two learners who were directly involved in waste management efforts. The research was carried out within the school setting to better capture the participants' real situations and practices. Data were gathered through in-depth interviews using a researcher-made guide that was reviewed and validated by three research experts to ensure that the questions were appropriate and aligned with the purpose of the study. Permission from school authorities and consent from the participants were secured before the interviews were conducted. The interviews were recorded, transcribed, and carefully

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reviewed. Braun and Clarke's Thematic Analysis was used to organize the responses, generate codes, and identify common patterns across the participants' experiences. To ensure the accuracy and trustworthiness of the findings, procedures such as member checking, validation of responses, and documentation of the whole process were followed. This study aimed to describe the practices used by the schools in managing solid waste, identify the challenges they encounter, and understand how these schools monitor and sustain their waste management program. From the analysis, several themes emerged, including the school system's waste segregation practices, availability of facilities and resources for waste management, learners' involvement in waste management activities, learners' attitude and behavioral challenges, challenges in scheduled waste collection, strengthening implementation through recognition, collaborative monitoring among stakeholders, and utilization of monitoring systems for continuous improvement. These themes provided a clear picture of how the two schools carry out their waste management responsibilities and the factors that help or hinder these efforts.

The following are the findings of the study:

Themes That Emerged from the Participants' Narratives

Category	Theme
Implementation Practices of Solid Waste Management	<ul style="list-style-type: none">• The school system's waste segregation practices• Availability of facilities and resources for waste management• Learners' involvement in waste management activities
Challenges and Strategies in Solid Waste Management Implementation	<ul style="list-style-type: none">• Learners' attitude and behavioral challenges

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Monitoring and Evaluation for Effectiveness and Sustainability

- Challenges in scheduled waste collection
- Strengthening implementation through recognition
- Collaborative monitoring among stakeholders
- Utilization of monitoring systems for continuous improvement

Conclusion

The findings of this study lead to several conclusions regarding the implementation and challenges of school-based solid waste management.

The current practices in the implementation of school-based solid waste management in the two non-central public elementary schools involve integrating waste management into the daily life of the school community. Proper waste segregation is consistently emphasized through regular reminders during the Monday flag ceremony, classroom discussions, and daily supervision by teachers and school heads. Waste management concepts are also integrated into different learning areas which helps students learn about the importance of being responsible for the environment as part of their education. Also, having resources and facilities like segregation bins, compost pits, and MRFs makes it easier to put waste management practices into action. These resources and facilities help learners learn how to sort and dispose trash as part of their daily lives. The study also shows that learners are not just passively following instructions but they are also actively involved by taking on roles like monitoring, cleaning up, and leading groups like SELG, YES-O, and the WinS Club.

The challenges in implementing solid waste management are mostly caused by learners' attitudes and some operational problems. Some learners don't throw away their trash

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properly, even though there are constant reminders and enough facilities and resources such as trash bins, MRFs, and compost pits around the school. Some learners still put their trash in the wrong bins or don't segregate their trash properly, especially when there isn't much supervision. These behaviors also arise from habits developed outside of school, particularly from practices experienced at home. Another challenge that schools face is that they can't always adhere to the scheduled waste collection since the municipality doesn't have enough resources. Sometimes, the regularity of garbage collection is affected by the availability of garbage trucks. The schools continue to utilize strategies including ongoing teacher supervision and motivating learners to be environmentally conscious using rewards or recognition to encourage appropriate waste management methods. Recognizing learners' and other stakeholders' efforts also encourages them to actively contribute to keeping the school environment clean and safe. The barangay also assists in organizing and facilitating the collection of waste from the school, which helps to address the problem with the waste collection schedule.

Collaboration between different stakeholders and the use of formal monitoring systems support the monitoring and evaluation for sustainability and effectiveness. Along with internal efforts, the school's waste management is strengthened by collaborations with parents, barangay officials, and the local government unit. PTA meetings, Brigada Eskwela, and the building and maintenance of waste management facilities show the involvement of the community. In keeping the environment clean, the barangay and LGU share responsibility by helping with waste collection. Additionally, the school can evaluate its performance in carrying

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out waste management programs on a regular basis by using the Department of Education's Wash in Schools (WinS) monitoring system. The school can assess its procedures, identify areas for improvement, and ensure that its waste management programs continue to be effective and sustainable by completing and submitting the yearly WinS monitoring forms.

In conclusion, the study concludes that a combination of regular procedures, learner involvement, accessible facilities, and effective stakeholder collaboration is used to implement school-based solid waste management in the chosen non-central schools. Even though there are still some operational and behavioral problems, the school community's and its stakeholders' ongoing efforts help to maintain environmental practices and encourage learners to manage their waste responsibly.

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Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza



References

- Abubakar, A. A., et al. (2022). Environmental sustainability impacts of solid waste management practices in the global South. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9566108/>
- Acosta, V., Paul, J., Lao, C., Aguinaldo, E., & Valdez, M. (2020). Development of the Philippines national solid waste management strategy 2012–2016. *Procedia Environmental Sciences*, 16, 9–16.
- Adeniyi, L. A., Oladehinde, G. J., Oladipupo, A. S., Adesoye, P. O., & Folorunso, S. A. (2024). Appraisal of solid waste generation in secondary schools towards sensitisation on environmental quality and education. *Management of Environmental Quality*, 35(2), 299–313. <https://doi.org/10.1108/MEQ-07-2023-0211>
- Akbasli, S., & Meydan, A. (2020). An evaluation of the problems of solid wastes at elementary schools depending on the views of school administrators. *Education*, 131(2), 407–418. <https://www.proquest.com/docview/881462942/DAA57A04C7994681PQ/8?accountid=213571&sourcetype=Scholarly%20Journals>
- Alam, S. M., & Ahmade, M. (2013). Impact of solid waste on health and the environment [PDF]. <https://intelligentjo.com/images/Papers/general/waste/IMPACT-OF-SOLID-WASTE-ON-HEALTH-AND-THE-ENVIRONMENT.pdf>
- Ana, G. R. E. E., Oloruntoba, E. O., Shendell, D., Elemile, O. O., Benjamin, O. R., et al. (2019). Solid waste management problems in secondary schools in Ibadan, Nigeria. *Journal of Environmental Health*, 74(2), 24–28. <https://www.proquest.com/docview/888061423/2055D3FECBF34011PQ/2?accountid=213571&sourcetype=Scholarly%20Journals>
- Asfaw, D. M., Asnakew, Y. W., Sendkie, F. B., Workineh, E. B., Mekonnen, B. A., et al. (2024). Perceived social, economic, environmental and health effects of solid waste

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management practices in Logia Town, Afar, Ethiopia. Discover Sustainability, 5(1), Article 308. <https://doi.org/10.1007/s43621-024-00533-7>

Asmawati Desa, & Abdul Kadir, N. B. (2018). Environmental awareness and education: A key approach to solid waste management (SWM). A case study of a university in Malaysia. In L. F. Marmolejo Rebellon (Ed.), Waste Management - An Integrated Vision. IntechOpen. <https://doi.org/10.5772/48169>

Atienza, V. (2019). Review of waste management system in the Philippines: Initiatives to promote waste segregation and recycling through good governance. In M. Kojima & Y. Michida (Eds.), Economic integration and recycling in Asia: An interim report. Chosakenkyū Hokokusho, Institute of Developing Economies.

Boateng, S., Boakye-Ansah, D., Baah, A., Aboagye, B., & Kyeremeh, P. A.-G. (2023). Solid waste management practices and challenges in rural and urban senior high schools in Ashanti Region, Ghana. Journal of Environmental and Public Health, 2023, Article 9694467. <https://doi.org/10.1155/2023/9694467>

Cambridge University Press. (n.d.). Challenge. In Cambridge English Dictionary. <https://dictionary.cambridge.org/dictionary/english/challenge>

Cambridge University Press. (n.d.). Implementation. In Cambridge English Dictionary. <https://dictionary.cambridge.org/dictionary/english/implementation>

Coracero, R., et al. (2021). A long-standing problem: A review on the solid waste management in the Philippines. <https://doi.org/10.47540/ijsei.v2i3.144>

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). SAGE Publications. https://www.academia.edu/57201640/Creswell_J_W_2014_Research_Design_Qualitative_Quantitative_and_Mixed_Methods_Approaches_4th_ed_Thousand_Oaks_CA_Sage

De La Cruz, A., & Bernal, C. (2024). Assessing the feasibility of waste-to-energy projects for sustainable solid waste management in the National Capital Region, Philippines. E3S

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Web of Conferences, 566, Article 02001.
<https://doi.org/10.1051/e3sconf/202456602001>

EBSCO. (n.d.). School-based management. In EBSCO Research Starters.

Environmental Protection Agency. (2023). Solid waste. In U.S. Environmental Protection Agency. <https://aithor.com/essay-examples/reflection-paper-about-solid-waste-management>

Fadhullah, W., Imran, N. I. N., Ismail, S. N. S., Jaafar, M. H., & Abdullah, H. (2022, January 5). Household solid waste management practices and perceptions among residents in the East Coast of Malaysia. *BMC Public Health*, 22(1), Article 1. <https://doi.org/10.1186/s12889-021-12274-7>

Fang, W., Ding, Y., Geng, J., Liu, Z., Huang, Y., Yang, J., Ma, Z., Liu, J., Bi, J., Liu, M., & Qu, Z. (2023). High potential of coupling the source-separation and incineration promotion to reduce costs based on city-level cost-benefit analysis of municipal solid waste management strategies in China. *Resources, Conservation & Recycling*, 197, Article 107099. <https://doi.org/10.1016/j.resconrec.2023.107099>

Gequinto, V. (2021). Solid waste management practices of select state universities in CALABARZON, Philippines. <https://d1wqtxts1xzle7.cloudfront.net/90181345/APJMR-2017.5.1.01-libre.pdf>

Harvey, L. (2024). Analytic quality glossary. Quality Research International. <http://www.qualityresearchinternational.com/glossary/level.htm>

Hassan, N. Y. I. (2023). Composting: An eco-friendly solution for organic waste management to mitigate the effects of climate change. *Innovare Journal of Social Sciences*, 4(1), 559–[page range].

Heiges, J., Lee, D. L., Vollmer, L., Wobbekind, K., Thompson, H. R., et al. (2022). Evaluating food packaging waste in schools: A systematic literature review. *International Journal of Environmental Research and Public Health*, 19(9), 5607. <https://doi.org/10.3390/ijerph19095607>

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Iuga, A. N. (2016). The circular economy concept [Figure]. In Eco-management for sustainable development using the circular economy (Fig. 1). ResearchGate. <http://www.wrap.org.uk/content/wrap-and-circular-economy>

Liao, C., & Li, H. (2019). Environmental education, knowledge, and high school students' intention toward separation of solid waste on campus. *International Journal of Environmental Research and Public Health*, 16(9), Article 1659. <https://doi.org/10.3390/ijerph16091659>

Kulin, N., & Johansson Sevä, M. (2019). The role of government in protecting the environment: Quality of government and the translation of normative views about government responsibility into spending preferences. *International Journal of Sociology*, 49(2), 110–126.

Lagerkvist, A., & Dahlén, L. (2019). Solid waste generation and characterization. In N. Themelis & A. Bourtsalas (Eds.), *Recovery of materials and energy from urban wastes (Encyclopedia of Sustainability Science and Technology)*. Springer. https://doi.org/10.1007/978-1-4939-7850-2_110

Limon, C., Vallente, J. P. C., & Corales, N. C. T. (2020). Solid waste management beliefs and practices in rural households towards sustainable development and pro-environmental citizenship. *Global Journal of Environmental Science and Management*, 6, 441–456.

Matsumoto, M. (2022). Evaluating school eco-centers at elementary schools in Calamba City, Philippines, and their impact on students' solid waste disposal practices. https://www.2017.iasc-commons.org/wp-content/uploads/2017/06/8K_Mariko-Matsumoto.pdf

Mkhonto, B., & Mnguni, L. (2021). The impact of a rural school-based solid waste management project on learners' perceptions, attitudes and understanding of recycling. *Recycling*, 6(4), 71. <https://doi.org/10.3390/recycling6040071>

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Mortos, Y. C. Y., Malbog, A., Nipas, M., Marasigan, R. Jr., & Nava, D. (2024). SMARTSORT: YOLOv4-driven smart sorting for household waste management. *E3S Web of Conferences*, 488, Article 03025. <https://doi.org/10.1051/e3sconf/202448803025>

Municipality of Dueñas, Iloilo. (2006). Municipal Ordinance No. 04, series of 2006: Ecological Solid Waste Management Ordinance of the Municipality of Dueñas. Dueñas, Iloilo, Philippines.

Municipality of Dueñas, Iloilo. (2019). Municipal Ordinance No. 18, series of 2019: Plastic Baylo Bugas Ordinance. Dueñas, Iloilo, Philippines.

Nasarani, G., Purnaweni, H., Maryono, M., & Surahman, N. (2024). The governance of Household Hazardous Waste (HHW): A literature review of HHW-related regulation in Southeast Asian developing countries. *IOP Conference Series: Earth and Environmental Science*, 1314(1), 012124. <https://doi.org/10.1088/1755-1315/1314/1/012124>

Nguyen-Trong, K., Nguyen-Thi-Ngoc, A., Nguyen-Ngoc, D., & Dinh-Thi-Hai, V. (2022). Optimization of municipal solid waste transportation by integrating GIS analysis, equation-based, and agent-based model. *Waste Management*, 62, 81–91. <https://doi.org/10.1016/j.wasman.2016.10.048>

Noudeng, V., Pheakdey, D. V., Tran, T. N. M., & Tran, D. X. (2024). Municipal solid waste management in Laos: Comparative analysis of environmental impact, practices, and technologies with ASEAN regions and Japan. *Environments*, 11(8), 170. <https://doi.org/10.3390/environments11080170>

Oducado, R. M. F. (2020, January). Survey instrument validation rating scale [Preprint]. SSRN. <https://doi.org/10.2139/ssrn.3789575>

Ojeda-Benítez, S., Armijo-de Vega, C., & Ramírez-Barreto, M. E. (2019). Household solid waste characterization by family socioeconomic profile as unit of analysis. *Resources, Conservation & Recycling*, 52(7), 992–999. <https://doi.org/10.1016/j.resconrec.2008.03.004>

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Ojolo, J., Adewole, A., & Oladele, O. (2020). Sustainable solid waste management in Nigeria: A case study of Lagos State. *Journal of King Saud University– Engineering Sciences*, 29(1), 12–21.

Osorio, E., Bularan, L., Tanchuling, M., Ty, S., & Inocencio, B. (2023). Comprehensive assessment of solid waste management of a highly urbanized city in Metro Manila, Philippines during the COVID-19 pandemic. *IOP Conference Series: Earth and Environmental Science*, 1257(1), 012010. <https://doi.org/10.1088/1755-1315/1257/1/012010>

Peters, D. H., Tran, N. T., & Adam, T. (2013). Implementation research: What it is and how to do it. *BMJ*, 347, f6753.

Quora. (n.d.). What is a simple explanation of general systems theory? <https://www.quora.com/What-is-a-simple-explanation-of-general-systems-theory>

Rashid, S., Sultan, H., Rashid, W., Talpur, B. D., Tulcan, R. X. S., Khan, M. T., Bohnett, E., Korai, M. S., & Zhang, L. (2025). A critical review of opportunities and challenges of solid waste management in an emerging economy—Evidence from Pakistan. *Environmental Development*, 101182. <https://doi.org/10.1016/j.envdev.2025.101182>

ResearchGate. (n.d.). The concept of management: In search of a new definition. https://www.researchgate.net/publication/326209797_The_Concept_of_Management_In_Search_of_a_New_Definition

Senate Economic Planning Office. (2017). Philippine solid wastes at a glance. Senate of the Philippines.

ScienceDirect. (n.d.-a). Theory of planned behavior. ScienceDirect. <https://www.sciencedirect.com/topics/medicine-and-dentistry/theory-of-planned-behavior>

ScienceDirect. (n.d.-b). Systems theory. ScienceDirect. <https://www.sciencedirect.com/topics/social-sciences/systems-theory>

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ScienceDirect. (n.d.-c). The theory of planned behavior.

<https://www.sciencedirect.com/science/article/abs/pii/074959789190020T>

Sharma, H. B., Vanapalli, K. R., Samal, B., Cheela, V. R. S., Dubey, B. K., & Bhattacharya, J. (2021). Circular economy approach in solid waste management system to achieve UN-SDGs: Solutions for post-COVID recovery. *Science of The Total Environment*, 800, Article 149605. <https://doi.org/10.1016/j.scitotenv.2021.149605>

Treyes, A. C., Osorio, E., Tanchuling, M. A., Andal, M. D., & Requejo, B. (2023). Socio-behavioral assessment of household solid waste management: The case of Barangay Calicanto, Philippines. *IOP Conference Series: Earth and Environmental Science*, 1257(1), 012008. <https://doi.org/10.1088/1755-1315/1257/1/012008>

Tsai, C., Wang, X., & Li, Y. (2020). A bibliometric analysis of municipal solid waste management in the context of a circular economy. *Sustainability*, 12(?), [page numbers], retrieved from MDPI.

U.S. Environmental Protection Agency. (2023). Solid waste. <https://aithor.com/essay-examples/reflection-paper-about-solid-waste-management>

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