



Implementation of Solid Waste Management Plan: Its Sustainability in the Municipality of Camaligan

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Abstract - This study investigated the influence of compliance on implementing the Solid Waste Management Plan (SWMP) in Camaligan, Camarines Sur, for calendar year 2023, serving as a basis for a unified intervention program. Specifically, it examined: (1) the level of compliance in terms of waste generation, segregation, disposal, recycling, and composting; (2) the level of implementation across the same aspects; (3) significant differences in compliance and implementation among aspects and respondents; (4) the relationship between compliance and implementation; (5) the extent to which compliance influences implementation; and (6) the development of a unified intervention program. Utilizing a descriptive-comparative-correlational design, data were gathered from 204 respondents using a researcher-made questionnaire and analyzed through weighted mean, ANOVA, Pearson correlation, and coefficient of determination. Results revealed high levels of compliance ($M=3.16$) and implementation ($M=3.06$). Significant differences were found among aspects and respondents, except in recycling implementation. Strong positive correlations were noted between compliance and implementation ($r=0.94-0.99$), with high predictive values ($r^2=89\%-99\%$), except for waste disposal ($r=0.36$, $r^2=13\%$). Findings support the development of a unified, data-driven intervention program to improve SWMP compliance and implementation, contributing to public health and environmental sustainability.

Keywords - Implementation, Solid Waste Management, Sustainability

INTRODUCTION

The implementation of Solid Waste Management (SWM) plans in local government units (LGUs) remains a pressing challenge in the Philippines and across many developing nations. Chief among these issues is the lack of infrastructure and financial resources needed to support the systematic collection, segregation, recycling, and final disposal of solid waste. Despite the enactment of Republic Act No. 9003 or the *Ecological Solid Waste Management Act of 2000*, which mandates LGUs to implement comprehensive waste management programs, numerous areas still rely on environmentally harmful methods such as open dumping and burning (Commission on Audit [COA], 2023). These practices pose significant risks not only

to environmental sustainability but also to public health.

Furthermore, inadequate community awareness and education contribute to the continued prevalence of improper waste disposal behaviors. Without consistent community engagement, waste segregation remains inconsistent, and waste generation increases unchecked. Addressing these issues requires collaborative, multisectoral action that promotes both technical investment in infrastructure and behavioral change through sustained education programs (United Nations Environment Programme [UNEP], 2024).

Globally, waste management is recognized as a sustainability concern tied closely to broader

environmental goals. UNEP's *Global Waste Management Outlook* (2024) underscores that the growing volume and complexity of waste—if left unaddressed—will result in escalating social, economic, and environmental costs. The report advocates for a shift toward circular economy models, emphasizing the decoupling of waste generation from economic growth. Sustainable waste management, therefore, demands not only technological innovations but also the active participation of stakeholders, integration of circular practices, and long-term policy support.

In the Philippine context, the implementation of RA 9003 remains uneven. The COA (2023) performance audit on SWM implementation revealed persistent issues such as weak enforcement of segregation policies, lack of operational Materials Recovery Facilities (MRFs), and insufficient collaboration among stakeholders. Likewise, Buenaflor's (2024) study on local governance and SWM in Metro Manila found systemic gaps in planning, budgeting, and monitoring, alongside accountability issues that hinder service delivery. Her work, grounded in Good Governance Theory, highlights the need for enhanced transparency and participatory mechanisms to strengthen the effectiveness of SWM programs.

The necessity of shifting from a linear to a circular economy is echoed by Bueta, Sonny, and Manejar (2023), who argued for the urgent adoption of circular economy principles in the Philippines' solid waste policies. Their findings point to the inefficiency of current resource utilization, underdeveloped recycling infrastructure, and the need for innovation-driven policies to improve sustainability outcomes at the local level.

In addition to these global and national perspectives, SWM is also a critical pathway to achieving Sustainable Development Goal 11 (SDG 11): Sustainable Cities and Communities, particularly Target 11.6, which aims to reduce the adverse environmental impact of cities, including improving air quality and waste management systems (United Nations, 2015). Waste management practices that prioritize community involvement and sustainable approaches can contribute significantly to this global commitment.

In this context, the present study investigates the implementation of the SWM Plan and the sustainability of its practices in the Municipality of Camaligan, Camarines Sur. The municipality, like many others, faces growing demands to enhance waste management systems while ensuring alignment with national policy and sustainability goals. A

research-driven approach is necessary to assess the level of compliance and implementation, identify critical gaps, and propose a unified intervention program. Such a program can guide LGUs in complying with RA 9003, mitigating public health risks, conserving environmental resources, and generating local economic benefits through effective waste reduction and resource recovery. This study ultimately seeks to contribute evidence-based insights to support a more efficient, inclusive, and sustainable solid waste management framework for Camaligan.

OBJECTIVES OF THE STUDY

This study aimed to determine the influence of compliance on the implementation of the Solid Waste Management (SWM) Plan in the Municipality of Camaligan, Camarines Sur for calendar year 2023, with the end goal of developing a unified intervention program to improve waste management practices.

Specifically, it assessed the level of compliance and implementation across five key components: waste generation, segregation, disposal, recycling, and composting. It also examined whether significant differences existed in these levels across the aspects and among respondent groups.

The study further explored the relationship between compliance and implementation, determining the extent to which compliance predicts or influences effective execution of the SWM Plan. Finally, based on the findings, it proposed a unified intervention program to enhance both compliance and implementation efforts within the municipality.

METHODS

This study utilized a descriptive-comparative-correlational research design to assess how compliance influences the implementation of the Solid Waste Management (SWM) Plan in the Municipality of Camaligan, Camarines Sur, for the calendar year 2023. The descriptive method was employed to determine the levels of compliance and implementation in terms of waste generation, segregation, disposal, recycling, and composting. The comparative method was used to examine significant differences in these levels across the identified SWM aspects and among various respondent groups. The correlational method was applied to explore the relationship between compliance and implementation, including the extent to which the former predicts the latter. Findings from these analyses guided the development of a unified intervention program.

A total of 204 participants were involved in the study, consisting of barangay officials, school SWM officers, LGU personnel, community residents, and members of the municipal SWM committee. Residents were selected through convenience sampling to ensure representation of individuals engaged in SWM practices, while total enumeration was applied to all other groups due to their limited and defined population. Data were collected using a validated, researcher-made survey questionnaire and supplemented with unstructured interviews to obtain deeper insights. The survey measured compliance and implementation levels using a 4-point Likert scale, while interviews allowed for the exploration of contextual experiences and perceptions related to SWM.

The research process involved securing permissions from relevant authorities, validating instruments, administering surveys and interviews, and analyzing the collected data. Statistical tools used included weighted mean for describing data trends, ANOVA for identifying significant differences among groups and SWM aspects, Pearson's correlation for testing relationships, and the coefficient of determination to assess the predictive influence of compliance on implementation. The systematic approach ensured the reliability of findings, which served as the basis for crafting a responsive and sustainable intervention program.

RESULTS AND DISCUSSION

The study provided a analysis of the level of compliance with the Solid Waste Management Plan in the Municipality of Camaligan, focusing on five key areas: waste generation, waste segregation, waste disposal, recycling, and composting.

The compliance level with the Solid Waste Management Plan in Camaligan regarding waste generation is generally "mostly compliant," with an average weighted mean of 3.14. School SWM In-charges (Group B) and LGU personnel (Group C) showed the highest compliance, while residents (Group D) and SWM committee members (Group E) demonstrated lower compliance, particularly in waste sorting and community engagement. These results highlight the municipality's strengths in waste management but also emphasize the need for increased public awareness and participation.

Table 1. Level of Compliance of Solid Waste Management Plan on Waste Generation

Indicators	AWM	Int.	Rank
Ensures adherence to effective trash production methods, including using sanitary landfills and avoiding open dumping.	3.19	MC	1
Decreases the total volume of waste generated per capita over a specified period.	3.16	MC	2
Intensifies public awareness and participation in waste minimization and sorting activities.	3.11	MC	3
Enhances the number of effective programs aimed at reducing waste.	3.09	MC	4
Increases the percentage of households and establishments practicing effective waste sorting.	3.07	MC	5
Overall Average Weighted Mean	3.14		
Interpretation	Mostly Compliant		

Legend:

Scale Interval	Interpretation	
3.26-4.00	Fully Compliant	(FC)
2.51-3.25	Mostly Compliant	(MC)
1.76-2.50	Partially Compliant	(PC)
1.00-1.75	Non-Compliant	(NC)

The level of compliance with the Solid Waste Management Plan in Camaligan regarding waste segregation is "mostly compliant," with an overall average mean of 3.17. Group C showed the highest compliance (3.41), excelling in contamination evaluation, while Group B (3.34) led in waste bin inspections. Group E (3.13) and Group A (3.00) were moderately compliant, and Group D had the lowest compliance (2.98), struggling with contamination levels and waste segregation accuracy. While practices like waste bin inspections and participation rates are strong, improvements are needed in contamination control and segregation accuracy to optimize waste management.

Table 2. Level of Compliance of Solid Waste Management Plan on Waste Segregation

Indicators	AWM	Int.	Rank
Inspects waste bins regularly for compliance.	3.27	FC	1
Assesses the participation rates in waste segregation.	3.24	MC	2
Tracks the rates of recycling.	3.16	MC	3
Monitors the accuracy of waste segregation.	3.15	MC	4
Evaluates the levels of contamination in segregated waste.	3.05	MC	5
Overall Average Weighted Mean	3.17		
Interpretation	Mostly Compliant		

The level of compliance with the Solid Waste Management Plan in Camaligan concerning waste disposal is "mostly compliant," with an overall average weighted mean of 3.13. The highest compliance is seen in Group B (3.50), particularly in following disposal schedules, while Group C (3.32) demonstrated strong adherence to proper disposal methods. Group A (3.04) and Group D (2.99) were moderately compliant, with challenges in maintaining disposal records and inspecting disposal sites. Group E (2.80) showed the lowest compliance, particularly

in handling hazardous waste. While adherence to disposal schedules is generally strong, areas like hazardous waste management and disposal site inspections require improvement for higher compliance across the board.

Table 3. Level of Compliance of Solid Waste Management Plan on Waste Disposal

Indicators	AWM	Int.	Rank
Checks adherence to disposal schedules.	3.33	FC	3.33
Ensures hazardous waste is handled correctly.	2.97	MC	2.97
Confirms waste disposal records are maintained.	3.17	MC	3.17
Verifies proper disposal methods are used.	3.17	MC	3.17
Inspects disposal sites for regulatory compliance.	3.00	MC	3.00

Overall Average

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Interpretation

Recycling, a key pillar of Solid Waste Management, showed mostly compliant adherence across groups, with the highest compliance in evaluating participation rates (AWM = 3.29) and the lowest in labeling recycling bins (AWM = 3.15). Group C ranked highest (AWM = 3.42), demonstrating strong implementation, while Group D ranked lowest (AWM = 3.01), indicating room for improvement. Overall, the general AWM of 3.20 reflects satisfactory compliance, with notable strengths in stakeholder engagement but persistent gaps in bin labeling and recyclable quality control.

Table 4. Level of Compliance of Solid Waste Management Plan on Recycling

Indicators	AWM	Int.	Rank
Evaluates the participation rates in recycling programs.	3.29	FC	1
Monitors the frequency of recycling collections.	3.24	MC	2
Measures the volume of materials recycled.	3.20	MC	3
Validates the quality of sorted recyclables.	3.19	MC	4
Ensures proper labelling or recycling bins.	3.15	MC	5
Overall Average Weighted Mean	3.20		

Interpretation Mostly Compliant

Composting compliance was generally satisfactory across groups, with the highest adherence seen in participation rates (AWM = 3.24) and the lowest in facility maintenance (AWM = 3.07), both interpreted as moderately compliant. Group B ranked highest (AWM = 3.50), reflecting strong composting practices, while Group E ranked lowest (AWM = 2.92), indicating the most room for improvement. The overall average weighted mean of 3.17 suggests mostly compliant performance, with notable strengths in engagement and compost volume

tracking, but ongoing challenges in facility upkeep and compost quality

Table 5. Level of Compliance of Solid Waste Management Plan On Composting

Indicators	AWM	Int.	Rank
Evaluates the participation rates in recycling programs.	3.29	FC	1
Monitors the frequency of recycling collections.	3.24	MC	2
Measures the volume of materials recycled.	3.20	MC	3
Validates the quality of sorted recyclables.	3.19	MC	4
Ensures proper labelling or	3.15	MC	5

Table 5 summarizes the overall compliance with the Solid Waste Management Plan, showing recycling as the most adhered-to aspect (OAWM = 3.20), followed closely by waste segregation and composting (OAWM = 3.17 each), all interpreted as mostly compliant. Waste disposal (OAWM = 3.13) and waste generation (OAWM = 3.14) ranked lower, reflecting areas needing improvement. Group B leads in compliance (OAWM = 3.43), while Groups D and E trail behind (OAWMs = 2.97 and 2.99). The grand average of 3.16 suggests a generally satisfactory implementation with key areas requiring further enhancement.

Table 6. Summary Table on the Level of Compliance of Solid Waste Management Plan

Indicators	AWM	Int.	Rank
Recycling	3.20	MC	1
Waste Segregation	3.17	MC	2.5
Composting	3.17	MC	2.5
Waste Disposal	3.13	MC	4

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The assessment of the level of implementation of the Solid Waste Management Plan (SWMP) across various components—namely waste generation, segregation, disposal, and recycling—reveals nuanced patterns of practice, strengths, and areas needing reinforcement across the five participating groups (A–E).

Table 7. Level of Implementation of Solid Waste Management Plan on Waste Generation

Indicators	AWM	Int.	Rank
Evaluates the effectiveness of waste reduction initiatives.	3.16	O	1
Records the frequency of waste collection.	3.12	O	2

Analyses the types of wastes produced.	3.04	O	3
Monitors changes in waste generation trends.	3.03	O	4
Tracks the total amount of waste generated.	2.97	O	5
Overall Average Weighted Mean	3.07		
Interpretation	Often		

Documents the frequency of waste disposal activities.	3.01	O	4.5
Checks compliance with disposal regulations.	3.01	O	4.5
Overall Average Weighted Mean	3.06		
Interpretation	Often		

The Waste Disposal domain also received “often” ratings (AWM = 3.06), with *reviewing disposal methods* rated most highly (AWM = 3.17), pointing to regular procedural assessments. Group B continued to perform strongly (AWM = 3.34), particularly in *protocol adherence* (WM = 3.80), signaling institutionalized practices. Meanwhile, *frequency documentation* and *regulatory compliance* were among the lowest (AWMs = 3.01), indicating

D reported the WM = 2.75), execution and

For Waste Generation, the highest-rated indicator across all groups was *evaluating the effectiveness of waste reduction initiatives* (AWM = 3.16), reflecting a shared emphasis on upstream waste minimization. Group B reported the strongest implementation (AWM = 3.40), with *analyzing types of waste produced* rated as “always” implemented (WM = 3.60). In contrast, *tracking total waste generated* received the lowest mean (AWM = 2.97).

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capacity building in data collection and evaluation.

Table 8. Level of Implementation of Solid Waste Management Plan on Waste Segregation

Indicators	AWM	Int.	Rank
Records the frequency of waste segregation audits.	3.15	O	1
Analyses the adherence rates to segregation guidelines.	3.13	O	2
Checks the condition and labelling of segregation bins.	3.06	O	3
Reviews the effectiveness of training on waste segregation.	3.03	O	4
Gauges the accuracy of waste segregation practices.	2.95	O	5
Overall Average Weighted Mean	3.06		
Interpretation	Often		

For Waste Segregation, results in this domain were relatively uniform, with all indicators rated “often.” *Frequency of segregation audits* scored highest (AWM = 3.15), highlighting routine oversight. Group B again led (AWM = 3.44), with *training effectiveness* achieving the highest mean (WM = 3.70), underscoring the value of education. However, *accuracy of segregation* received the lowest mean (AWM = 2.95), revealing gaps between policy and practice. Groups D and E, with the lowest overall means (2.91 and 2.93), showed moderate adherence and suggest the need for stronger quality assurance systems.

Table 8. Level of Implementation of Solid Waste Management Plan on Waste Disposal

Indicators	AWM	Int.	Rank
Reviews the effectiveness of disposal methods.	3.17	O	1
Examines disposal sites for proper management.	3.14	O	2
Assesses adherence to waste disposal protocols.	3.10	O	3

Recycling showed the most consistent implementation but had a slightly lower overall average (AWM = 3.03). The highest-rated indicator was *validation of bin labeling and condition* (AWM = 3.18), suggesting adequate infrastructure. Group B again ranked highest (AWM = 3.22), indicating robust system integration. Lower scores in *measuring recyclables* (AWM = 2.89) and *collection frequency* (AWM = 2.97) point to operational lapses. Group D remained the weakest performer (AWM = 2.90), mirroring trends in other SWMP components.

Table 9. Level of Implementation of Solid Waste Management Plan on Recycling

Indicators	AWM	Int.	Rank
Validates the labelling and condition of recycling bins.	3.18	O	1
Records the quality of sorted recyclables.	3.06	O	2
Examines the engagement rates in recycling programs.	3.05	O	3
Reviews the frequency of recycling collections.	2.97	O	4
Measures the volume of materials being recycled.	2.89	O	5
Overall Average Weighted Mean	3.03		
Interpretation	Often		

Composting practices under the Solid Waste Management Plan (SWMP) were generally rated as “often” implemented (OAWM = 3.05), with the highest score for tracking participation rates (AWM = 3.12), indicating strong community engagement. However, monitoring the frequency of composting activities received the lowest score (AWM = 3.00), pointing to inconsistencies in regular implementation. Group B ranked highest (AWM = 3.22), marked by proactive participation tracking, while Group D scored lowest (AWM = 2.84),

highlighting a need for greater support in infrastructure and engagement.

Table 10. Level of Implementation of Solid Waste Management Plan on Composting

Indicators	AW M	Int.	Rank
Reckons the participation rates in composting programs.	3.12	O	1
Assesses the condition of composting facilities.	3.09	O	2
Evaluates the quality of compost produced.	3.06	O	3
Quantifies the volume of materials being composted.	3.01	O	4
Monitors the frequency of composting activities.	3.00	O	5
Overall Average Weighted Mean	3.05	O	
Interpretation	Often		

Overall, composting ranks fourth among SWMP domains, following waste generation, segregation, and disposal. While practices are in place across groups, challenges persist in data tracking and operational consistency. Strengthening monitoring mechanisms and providing targeted support—particularly for lower-performing groups—can enhance composting outcomes and overall SWMP effectiveness.

Table 11. Summary Table on the Level of Implementation of Solid Waste Management Plan

Indicators	AW M	Int.	Rank
Waste Generation	3.07	O	1
Waste Segregation	3.06	O	2.5
Waste Disposal	3.06	O	2.5
Composting	3.05	O	4
Recycling	3.03	O	5
Overall Average Weighted Mean	3.06		
Interpretation	Often		

Tables 12 and 13 reveal significant differences in compliance with RA 9003 both across waste management aspects and among respondent groups, with all p-values falling below the 0.05 threshold. Waste generation and composting exhibited the most pronounced disparities among aspects, while the high F-value in respondent data underscores varying levels of adherence across groups. These findings highlight the need for targeted interventions and differentiated support to improve compliance and ensure the effectiveness of the Solid Waste Management Plan.

Table 12 Differences in the Level of Compliance among Aspects

Aspects	df	F-value	p-value	Interpretation
Waste Generation	4,20	25.00736	0.00001	Significant
Waste Segregation	4,20	4.7039	0.00771	Significant
Waste Disposal	4,20	7.69084	0.00063	Significant
Recycling	4,20	4.10013	0.01380	Significant
Composting	4,20	16.34619	0.00001	Significant

Table 13 Differences in the Level of Compliance among Respondents

Source	Sum of Squares	df	Mean of Squares	F-value	p-value	Int .
Between Treatments	1.1416	4	0.2854	27.890	0.00001	S
Within Treatments	0.204	20	0.0102			
Total	1.3456	24				

Tables 14 and 15 reveal significant differences in the implementation of the Solid Waste Management Plan across both aspects and respondent groups. While waste generation, segregation, disposal, and composting show varied levels of implementation, recycling does not differ significantly, suggesting a consistent pattern or shared challenges. Among respondents, the high F-value and low p-value point to substantial disparities in how different groups implement waste management strategies, highlighting the need for targeted interventions and group-specific support to ensure consistent and effective execution across the community.

Table 14. Differences in the Level of Implementation of the among Aspects

Aspects	df	F-value	p-value	Interpretation
Waste Generation	4,20	4.7349	0.00749	Significant
Waste Segregation	4,20	9.8803	0.00014	Significant
Waste Disposal	4,20	7.14521	0.00096	Significant
Recycling	4,20	2.13665	0.11380	Not Significant
Composting	4,20	2.92737	0.04675	Significant

Table 14. Differences in the Level of Implementation of the among Respondents

Source	Sum of Squares	df	Mean of Squares	F-value	p-value	Int.
Between Treatments	0.6072	4	0.1518	35.20176	0.00001	S
Within Treatments	0.0862	20	0.0043			
Total	0.6934	24				

The study reveals a very strong and statistically significant correlation between the level of compliance and the level of implementation in waste generation, segregation, recycling, and composting, with r-values ranging from 0.94 to 0.99 and p-values all below 0.05. However, waste disposal shows a low, non-significant correlation ($r = 0.36$, $p = 0.5509$), suggesting that unlike other aspects, compliance does not necessarily predict effective implementation in this area—implying a need for alternative strategies to strengthen its execution.

Table 15. Relationship between the Level of Compliance and the Level of Implementation of the Solid Waste Management Plan

Level of Compliance	Level of Implementation	r-value	Degree of Correlation	p-value	Int.
Waste generation	Waste generation	0.99	Very High	0.0012	S
Waste segregation	Waste segregation	0.99	Very High	0.0004	S
Waste disposal	Waste disposal	0.36	Low	0.5509	NS
Recycling	Recycling	0.97	Very High	0.0072	S
Composting	Composting	0.94	Very High	0.0163	S

Legend:

r-value

Less than ± 0.20
 ± 0.20 to ± 0.39
 ± 0.40 to ± 0.69
 ± 0.70 to ± 0.89
 ± 0.90 to ± 1.00

Interpretation

Negligible Correlation
 Low Correlation
 Moderate Correlation
 High Correlation
 Very High Correlation

In measuring the Extent of Influence of the Level of Compliance on the Level of Implementation of Solid Waste Management Plan, Table 16 shows that compliance exerts a very strong influence on the implementation of waste generation, segregation, recycling, and composting, with r^2 -values ranging from 89% to 99%, indicating that a large proportion of implementation outcomes in these areas can be explained by compliance. However, waste disposal stands out with a very weak influence ($r^2 = 13\%$), suggesting that factors beyond compliance may be driving implementation in this domain, thereby necessitating further investigation and alternative strategies.

Table 7. Extent of Influence of the Level of Compliance on the Level of Implementation of the Solid Waste Management Plan

Level of Compliance	Level of Implementation	r-value	r^2 -value	Int.
Waste generation	Waste generation	0.99	98%	Very Strong
Waste segregation	Waste segregation	0.99	99%	Very Strong
Waste disposal	Waste disposal	0.36	13%	Very Weak
Recycling	Recycling	0.97	93%	Very Strong
Composting	Composting	0.94	89%	Very Strong

The Unified Intervention Programs on Solid Waste Management aim to address the challenges of waste generation, segregation, disposal, recycling, and composting by fostering a sustainable, cohesive waste management system. These programs integrate efforts from local government units, educational institutions, and residents, focusing on improving compliance, boosting community involvement, and enhancing environmental practices to ensure a cleaner and healthier future.

The rationale for these programs stems from the identified inefficiencies in the current SWM system, including limited funding, technical shortcomings, insufficient public awareness, and inconsistent enforcement. By addressing these gaps, the program seeks to strengthen waste management practices, improve infrastructure, and foster a culture of responsibility. Key objectives include educating stakeholders, upgrading facilities, enforcing policies, and advocating eco-friendly practices, all while ensuring continuous improvement through effective monitoring.

The findings of this study align with Pongrácz's Systems Theory, which views solid waste management as an interconnected system requiring coordination across components such as generation, segregation, treatment, and disposal (Awino & Apitz, 2023). Significant differences in implementation and the strong correlation between compliance and practices like segregation, recycling, and composting support the theory's emphasis on systemic integration. The weak correlation in waste disposal further highlights the need for more targeted, multi-faceted strategies.

The Unified Intervention Programs proposed reflect this systems-based approach by addressing technical, institutional, and behavioral gaps through stakeholder collaboration, infrastructure support, and continuous monitoring. This integrated strategy mirrors Systems Theory's call for a holistic and adaptive framework to enhance the sustainability of

Camaligan's Solid Waste Management Plan (Awino & Apitz, 2023).

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CONCLUSIONS AND. RECOMMENDATIONS

The study revealed that the level of compliance and implementation of the Solid Waste Management Plan (SWMP) in Camaligan was generally positive, with practices such as waste segregation, recycling, and composting being mostly compliant and often implemented. Significant differences were observed across SWM aspects and among stakeholders, indicating variability in understanding and practice. A strong and statistically significant relationship exists between compliance and implementation, with the former showing a very strong influence on the latter in most aspects, except for waste disposal. These findings emphasize the need for systematized and targeted waste management efforts to ensure consistent adherence and efficiency.

To improve compliance and implementation, the study recommends intensified training and public awareness campaigns, especially focused on weaker areas such as waste disposal. Investments in infrastructure, such as more accessible composting and recycling facilities, should be prioritized. Monitoring mechanisms, stricter enforcement, and incentive programs are also essential to sustain high compliance. Unified intervention programs involving LGUs, schools, and residents should foster a culture of shared responsibility, with emphasis on eco-friendly practices, continuous evaluation, and collaborative community engagement to drive long-term sustainability in solid waste management.

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