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**INTERNATIONAL JOURNAL OF
MULTIDISCIPLINARY RESEARCH & REVIEWS**

journal homepage: www.ijmrr.online/index.php/home

**FINANCING SOLID WASTE MANAGEMENT IN MARAWI
CITY: BUDGET ALLOCATION ISSUES AND OPERATIONAL
CHALLENGES**

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How to Cite the Article: Hosnie M. Gogo (2025). *Financing Solid Waste Management in Marawi City: Budget Allocation Issues and Operational Challenges*. *International Journal of Multidisciplinary Research & Reviews*, 4(4), 240-244.



<https://doi.org/10.56815/ijmrr.v4i4.2025.240-244>

Keywords	Abstract
<p><i>Solid Waste Management, Ecological Solid Waste Management Act (Ra 9003), Budget Allocation, Community Awareness, Marawi City, Public Administration.</i></p>	<p>This study examined the improvements of initiatives and programs implemented in Marawi City's solid waste management (SWM) system. It specifically identified ecological SWM programs funded by the city government, analyzed budget allocation strategies, assessed residents' awareness and participation, and determined issues and challenges in implementation. Guided by the Political Economy of Fiscal Policy, Rational Choice, Public Choice, and Principal-Agent theories, the study explored how political and institutional factors influence local waste management.</p> <p>A quantitative-descriptive design was used, involving selected city offices—CENRO, Budget Office, and General Services Office—and 233 residents from three barangays: Dimaluna, Rapasun, and Basak-Malutlut. Data were gathered through document analysis and survey questionnaires and analyzed using frequency, percentage, and weighted mean.</p> <p>Findings revealed that while several ecological SWM programs were implemented in compliance with Republic Act 9003, their execution remained limited, particularly at the barangay level. Budget allocation was generally effective but hindered by inadequate funds and delayed disbursement. Residents' participation and awareness were also low. The study recommends strengthening community education, fiscal transparency, and inter-agency coordination, alongside investing in localized waste facilities and exploring innovative financing strategies to enhance sustainability and efficiency.</p>



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1. INTRODUCTION

Effective solid waste management (SWM) is a critical function of local governments, particularly in rapidly urbanizing and environmentally vulnerable cities. In the Philippines, the enactment of the Ecological Solid Waste Management Act of 2000 (Republic Act No. 9003) mandates local government units (LGUs) to implement environmentally sound waste segregation, collection, recycling, and disposal systems. Despite this legal framework, many cities continue to struggle with inadequate financing, weak institutional capacity, and limited community participation. Marawi City faces distinct challenges in implementing sustainable SWM. As a post conflict city with constrained fiscal resources, administrative fragmentation, and rapid population growth, Marawi's capacity to finance and operationalize ecological waste management remains limited? Although the city government has initiated various SWM programs, persistent issues related to budget allocation, operational inefficiencies, and low public awareness undermine their effectiveness.

Understanding SWM performance requires attention not only to technical and environmental considerations but also to political and institutional dynamics. This study is anchored in the Political Economy of Fiscal Policy, Rational Choice Theory, Public Choice Theory, and Principal-Agent Theory, which collectively explain how resource allocation decisions, individual incentives, bureaucratic behavior, and accountability structures shape policy outcomes.

This study examines the financing of solid waste management in Marawi City by identifying ecological SWM programs funded by the city government, analyzing budget allocation strategies, assessing residents' awareness and participation, and identifying key implementation issues and challenges. The findings aim to inform policy reforms that enhance the sustainability and efficiency of local waste management systems.

2. METHODS

➤ Research Design

The study employed a quantitative-descriptive research design to analyze budgetary practices, program implementation, and community participation in Marawi City's SWM system. This design was appropriate for documenting existing conditions and identifying operational gaps.

➤ Study Sites and Respondents

The study involved selected city offices directly responsible for waste management and fiscal planning, namely the City Environment and Natural Resources Office (CENRO), Budget Office, and General Services Office (GSO). In addition, 233 residents from three barangays—Dimaluna, Rapasun, and Basak-Malutlut— participated in the survey. These barangays were selected to capture varying levels of urban density and service coverage.

➤ Data Collection

Data were gathered through document analysis and survey questionnaires. Official documents, including budget reports, program plans, and operational records, were reviewed to identify funded SWM initiatives and allocation patterns. The survey instrument measured residents' awareness of



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ecological SWM programs, participation in waste segregation and disposal practices, and perceptions of local implementation.

➤ **Data Analysis**

Collected data were analyzed using descriptive statistical tools, including frequencies, percentages, and weighted means. These methods were used to assess the extent of program implementation, budget sufficiency, and levels of community engagement.

3. RESULTS

The findings revealed that Marawi City had implemented several ecological SWM programs in line with RA 9003, including waste collection services, information campaigns, and limited segregation initiatives. However, program execution remained uneven, with implementation largely concentrated at the city level and minimal operationalization at the barangay level.

Budget analysis indicated that while SWM received regular allocations, funding levels were generally insufficient to support comprehensive and sustained implementation. Delays in fund disbursement further constrained operational capacity, affecting procurement, maintenance of equipment, and continuity of services.

Survey results showed low levels of public awareness and participation in ecological SWM practices. Many residents were unfamiliar with proper waste segregation procedures and reported limited access to information or facilities that would enable compliance. Participation in community-based waste management activities was minimal, reflecting weak incentives and limited engagement strategies.

Overall, the findings highlighted a gap between policy mandates and operational realities, shaped by fiscal constraints, administrative coordination issues, and limited community involvement.

4. DISCUSSION

The results demonstrate that financing plays a central role in shaping the effectiveness of solid waste management in Marawi City. From a political economy perspective, budget allocation reflects competing priorities within a resource constrained local government, often resulting in underfunding of environmental programs. Delayed disbursement further weakens implementation, illustrating principal-agent problems where administrative bottlenecks hinder service delivery.

Public Choice and Rational Choice theories help explain low community participation, as residents may lack incentives or perceive limited benefits from complying with SWM regulations in the absence of consistent enforcement and adequate facilities. Weak information dissemination and limited barangay-level engagement reduce collective action and undermine program sustainability.

The findings are consistent with national and international studies emphasizing that compliance with RA 9003 requires not only legal mandates but also sufficient financing, institutional coordination, and community buy-in. Without these elements, ecological SWM programs remain symbolic rather than transformative.



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5. CONCLUSION

This study concludes that while Marawi City has initiated several ecological solid waste management programs in compliance with RA 9003, their effectiveness is constrained by budget allocation issues, delayed fund disbursement, limited barangay-level implementation, and low community awareness and participation. Fiscal and institutional challenges significantly affect the sustainability of SWM initiatives. To improve outcomes, the study recommends strengthening fiscal transparency, enhancing inter-agency coordination, expanding community education campaigns, and investing in localized waste management facilities. Exploring innovative financing mechanisms, such as public-private partnerships and user-based incentives, may further enhance the efficiency and sustainability of solid waste management in Marawi City.

6. AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this Manuscript.

7. CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

8. PLAGIARISM POLICY

All authors declare that any kind of violation of plagiarism, copyright and ethical matters will be taken care of by all authors. Journal and editors are not liable for aforesaid matters.

9. SOURCES OF FUNDING

The authors received no financial aid to support for the research.

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