International Journal of Economics and Management Research

E-ISSN: 2830-2508
P-ISSN: 2830-2664

Research Article

Implementation of Environmental Management Accounting in the Waste Management Process at Az-Zahra Clinic, Karawang Regency

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Abstract: Environmental issues arising from medical waste have become an increasingly significant concern in the management of healthcare facilities. This study aims to examine the application of Environmental Management Accounting (EMA) in the waste management process at the Az-Zahra Clinic in Karawang Regency. The research uses a descriptive qualitative approach, with data collected through interviews, observations, and documentation studies. The results indicate that Az-Zahra Clinic has implemented waste management practices, including sorting, temporary storage, and destruction of medical waste through third-party vendors. However, the clinic's environmental cost recording remains manual and is not integrated into its financial system, which leads to a lack of transparency and accountability. Environmental costs are currently recognized as part of general operating expenses without specific classification, and the measurement of these costs is done using the historical cost method. This study highlights the importance of integrating EMA to enhance the efficiency of waste management, improve compliance with environmental regulations, and ensure transparency in environmental cost recording. By adopting EMA, the clinic could better track and manage its environmental costs, which would contribute to improved operational efficiency and sustainability. It is recommended that the clinic develop a more integrated environmental accounting recording system to enhance the management of environmental impacts, improve the clarity of cost allocations, and support long-term sustainability in its operations. The study underscores the need for healthcare facilities to adopt systematic environmental accounting to ensure compliance with environmental standards and contribute to overall sustainability goals.

Keywords: Environmental Costs; Environmental Management Accounting; Operational Efficienc; Sustainability; Waste Maanagement.

Received: July 02, 2025;
Revised: July 16, 2025;
Accepted: July 30, 2025
Available Online: August 01, 2025
Curr. Ver.: August 01, 2025

1. Introduction

Environmental issues are always interesting to consider along with technological developments and the global economy. Concerns about environmental damage and global concerns have prompted businesses to consider proper waste management, as clinical activities directly impact the internal and external environment. Implementing environmental management accounting will help management make better business decisions and achieve superior environmental performance while considering environmental concerns. Good environmental performance boosts investor confidence and increases clinic profitability. Because the implementation of environmental management accounting positively impacts environmental performance, it also positively impacts a clinic's financial performance.(Indariyani, 2023).

The application of environmental management accounting in the healthcare sector has been proven to have a significant impact. However, in Indonesia, the implementation of environmental management accounting in clinics is not yet widespread. Many clinics, especially

those in rural areas, still face challenges in understanding and adopting this approach due to limited human resources, technology, and management awareness.(Prasetyo et al., 2020).

Improper clinical waste management can have serious impacts on public health and the environment. For example, improperly disposed of infectious waste has the potential to spread disease, while hazardous chemicals can contaminate soil and groundwater sources. Therefore, clinical waste management requires an integrated approach, not only to comply with environmental regulations but also to ensure operational cost efficiency. In this context, environmental management accounting plays a crucial role, helping clinics identify, measure, and manage costs associated with waste management.(Setyowati et al., 2019). Internal reports indicate that operational costs for medical waste management have increased by up to 15% annually. Several factors influencing this increase include the increasing number of patients, the volume of waste generated, and the increasing waste management fees charged by third parties. The volume of medical waste from hospitals, community health centers, and clinics in Indonesia reaches 294 tons per day, and approximately 50% of it is not managed according to established standards.(Ministry of Health of the Republic of Indonesia, 2022)The amount of medical waste produced in Karawang Regency reaches 22 tons per day, originating from hospitals, clinics, and other health facilities.(Radar Sukabumi, 2021).

Every healthcare facility, including clinics, plays a vital role in providing healthcare to the public. However, despite their benefits, clinics also produce medical and non-medical waste that negatively impacts the environment if not managed properly. Az-Zahra Clinic is one such clinic that continues to expand its medical services offerings. However, waste management still faces various challenges, particularly when recording environmental costs in annual financial reports. Medical waste, particularly B3 (Hazardous and Toxic Materials) waste, is infectious and toxic, potentially polluting the environment and endangering public health. Therefore, an environmental management accounting system is needed to ensure that costs incurred for waste management are transparently recorded.

Law No.32 of 2009The Law on Environmental Protection and Management, as well as Minister of Health Regulation No. 7 of 2019 concerning Environmental Health in Healthcare Facilities, emphasize the importance of sustainable medical waste management. Clinics that fail to comply with regulations face administrative sanctions and can also suffer serious reputational damage. The implementation of environmental management accounting at Az-Zahra Clinic is expected to be a strategic solution to improve operational cost efficiency while ensuring compliance with applicable environmental regulations.

According toSari & Yulianto (2019)In his research at Dr. Moewardi Regional General Hospital in Surakarta, he found that the hospital still faces obstacles in allocating environmental costs, because there is no clear classification in their annual financial reports.Rahmawati (2021)examined the implementation of environmental management at the Yogyakarta City Community Health Center and found that environmental costs were not specifically recorded, leading to a lack of transparency in financial reports.Putri & Wahyuni (2022)In his research at Sleman District Hospital, he highlighted the importance of integrating environmental management accounting into the hospital financial system to increase the effectiveness of medical waste management.

This phenomenon indicates that most medical facilities still face challenges in managing medical waste, particularly in terms of accounting records and environmental cost allocation. This phenomenon also occurs at the Az-Zahra Clinic in Karawang Regency, where environmental costs have not received a specific classification in the financial statements but are still mixed with other accounts.

Based on these conditions, this study aims to analyze the application of environmental management accounting in the waste management process at the Az-Zahra Clinic, Karawang Regency to increase transparency and effectiveness in recording costs and managing environmental costs.

2. Literature Review

Legitimacy Theory

Legitimacy theory is closely related to the application of environmental management accounting in the waste management process at the Az-Zahra Clinic in Karawang Regency. This theory emphasizes the importance of organizational activities being consistent with community values, norms, and expectations to maintain the sustainability of the organization's operations. By implementing environmental management accounting, the

clinic can demonstrate transparency and accountability in medical waste management while meeting the expectations of stakeholders such as the local community, government, and environmental organizations. This not only helps the clinic comply with applicable regulations but also strengthens legitimacy through socially and environmentally responsible management, thereby supporting a positive image and operational sustainability. Legitimacy Theory suggests that the limitations in establishing norms, social values, and reactions can encourage the analysis of organizational behavior in considering the existing environment, and this is very important. The basis for thinking in legitimacy theoryKepakisan & Budiasih (2022)The continued existence of a clinic is based on the public's perception that the clinic operates with values that align with the community's own value system. Thus, a social contract is created between the company and the community, requiring the company to consider prevailing norms to align with existing social values.(Rahmayani & Anggraini, 2021).

Environmental Management Accounting

Efforts to encourage companies to implement environmental management accounting are increasing. Companies are now required to consistently consider environmental and human factors, while focusing on profitability in all business activities.

According to Ikhsan (2019)Environmental management accounting is a branch of environmental accounting that aims to provide crucial information for an organization's decision-making process. While the information generated can be used for other purposes, such as external reporting, environmental management accounting specifically focuses on reporting and conveying information regarding(1)Flow of materials and energy;(2)Environmentally related costs;(3)Other measurable information, compiled based on environmental management accounting to support corporate decision-making.

Environmental management accounting is an integration of financial accounting, cost accounting, and material flow balance analysis. Its goal is to improve material efficiency, reduce environmental impacts and risks, and reduce environmental protection costs. Through this approach, environmental management accounting provides managers with the critical information they need to support company activities that impact the environment. In the decision-making process, environmental management accounting focuses on the identification, collection, analysis, and utilization of two main types of information:

a. Physical data regarding the use of energy, water, and material (including waste) flows and consumption rates.
b. Monetary information that includes costs, revenues, and savings related to environmental aspects(Syarif & Novita, 2018).

Environmental Costs

Environmental costs in this case, the Company must prepare an environmental cost report to provide relevant information to internal and external stakeholders to guide decision-making regarding existing environmental impacts. According toFranciska et al. (2019), environmental costs are costs that arise as a result of the operation of an institution. Environmental costs must be presented separately on the balance sheet. According toAripin & Negara (2021), environmental costs are costs that arise due to the possibility of a decline in environmental quality. According toSyadiah et al. (2023)Environmental costs are impacts that arise from both financial and non-financial aspects. Environmental costs must be borne by activities that damage environmental quality.

Medical and Non-Medical Waste Management

According to Government Regulation Number 22 of 2021, waste is defined as the residue of a business or activity. Hospital waste refers to all solid and liquid waste generated from hospital activities, both medical and non-medical, which may contain microorganisms, toxic chemicals, and radioactive materials.(Karo, 2019).

In general, waste can be divided into two main categories: medical waste and non-medical waste, often referred to as domestic waste. In terms of physical form, waste is generally divided into three types: solid waste, liquid waste, and gaseous waste.

Medical Waste

Medical waste is waste generated from medical services, dental care, veterinary practices, pharmaceuticals, and nursing, research, or educational activities involving the use of potentially hazardous toxic or infectious materials. This medical waste requires special handling to avoid risks. Therefore, the types of waste can be classified as follows:

a. (Sharps waste) This medical waste includes medical equipment used to treat illnesses. Typically, this waste comes from single-use equipment such as syringes and razor blades.
b. (Infectious waste) Medical waste containing blood or body parts removed from the body as a result of medical procedures, medical waste is usually also a disposable material resulting from surgical procedures or the collection of laboratory samples.
c. (Chemical waste) Not only biological waste is produced, chemical waste is also produced in the medical world including liquid reagents and waste from laboratories.
d. (Pathological waste) Medical waste originating from internal organ tissue and other body parts of humans or animals.
e. (Radioactive waste) Waste generated from medical applications or experimental research involving radioactive substances.
f. (Pharmaceutical waste) This medical waste also needs to be disposed of properly and accurately. There are concerns that if these items are disposed of carelessly, they could be misused. Pharmaceutical medical waste, for example, includes expired or contaminated medicines and vaccines that are no longer suitable for consumption.
g. (Cytotoxic waste) This waste is the waste or residue from hazardous and toxic products or materials. It is typically used in cancer treatment or chemotherapy.

Non-Medical Waste

Non-medical waste, often known as domestic waste, encompasses all types of waste that do not originate from medical activities. This waste can come from various sources, such as offices or administrative activities that produce cardboard, cans, and bottles. Non-medical waste also includes waste from patient rooms, food scraps, and kitchen waste, which includes food wrappers, leftovers, food ingredients, vegetables, and other items.

Risks Due to Medical Waste

Clinical waste, particularly viruses and bacteria produced in laboratories, can pose a threat to public health because there is currently no antidote and it is difficult to detect. Liquid and solid waste from clinics can be a means of spreading disability and disease to staff, affected individuals, and the community. These hazards can include air pollution, water pollution, and food and beverage contamination. This medical waste is likely to contain pathogenic microorganisms and toxic and hazardous chemicals that can cause infections, resulting from improper medical techniques, improper handling of contaminated materials and equipment, and can enter the clinical environment through the provision and maintenance of sanitation facilities.

Medical Waste Impact Management

The initiative to address the impact of waste in West Java Province is part of environmental improvement efforts as regulated in Article 6 of the Minister of Health Regulation Number 986/1992, including building cleanliness, food and drink, water quality, waste and garbage management, rodents and insects.

The Az-Zahra Clinic in Karawang Regency produces waste daily from its operational activities, which can negatively impact the environment if not managed properly. Implementing Environmental Management Accounting (EMA) provides a solution for recording and analyzing environmental costs, helping the clinic manage waste efficiently. Furthermore, implementing EMA also ensures compliance with medical waste management regulations, creating a healthier and more sustainable environment.

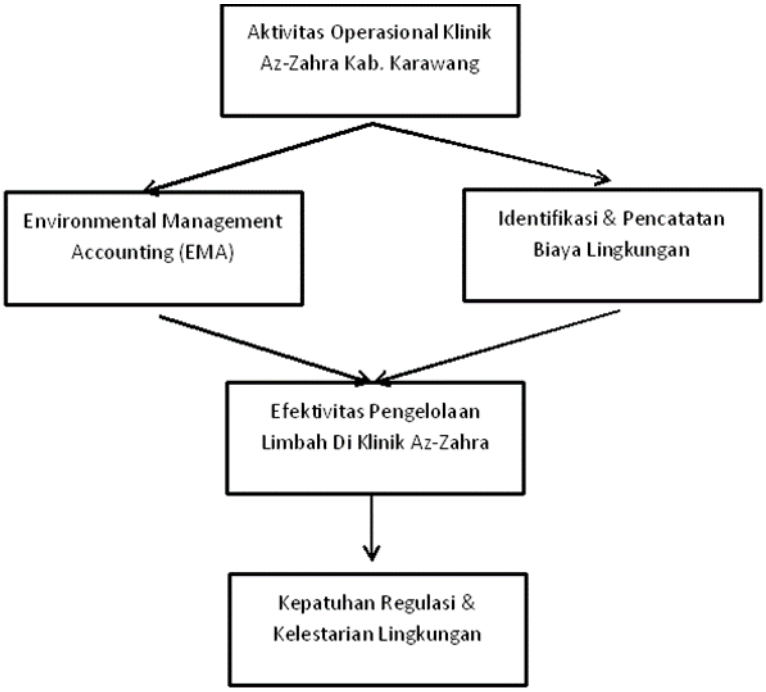

Figure 1. Framework

Based on the framework of thought above, the following propositions can be seen:

1. The implementation of Environmental Management Accounting (EMA) in the operational activities of the Az-Zahra Clinic in Karawang Regency contributes to the effectiveness of medical waste management.
2. Proper identification and recording of environmental costs helps in increasing transparency and accountability in waste management in the Clinic.
3. The effectiveness of waste management at Az-Zahra Clinic will have a direct impact on increasing compliance with environmental regulations and supporting environmental sustainability.
4. Regulatory compliance and environmental sustainability are the result of implementing an EMA-based waste management system and accurate recording of environmental costs.

3. Proposed Method

This research uses qualitative with a descriptive approach. According toSugiyono (2022)Descriptive qualitative research aims to understand naturally occurring phenomena by emphasizing meaning and process. This approach is used to understand and analyze the application of environmental management accounting in waste management at the Az-Zahra Clinic in Karawang Regency. Descriptive research aims to provide a more detailed overview of the implementation of environmental management accounting, the challenges faced, and the benefits obtained in clinical waste management.

Data collection techniques used interviews, observations and document studies. Interviews were conducteddirectly from several informants such as Dr. Suherman Dedi Saputra as the person in charge of the Clinic, and Mr. Tengku Fadilah in the FIC section. For additional information, an interview was conducted with Ms. Devi Astriani, SE, M.Ak. as a lecturer in the Accounting study program. Direct observation was conducted to verify waste management practices on site, including the separation of medical and non-medical B3 waste, temporary storage systems, and waste transportation and disposal procedures. Document studies will be used to review the clinic's financial statements and compare environmental cost accounting with applicable environmental management accounting standards.

Data analysis dilI use qualitative techniques with a model approachMiles & Huberman (2024), which consists of three main stages:

1. Data Reduction: Filtering data obtained through observation, interviews, and documentation to obtain relevant information.

2. Data Presentation: Arranging data in narrative, table, or diagram form to facilitate analysis and interpretation.
3. Conclusion Drawing: Interpreting the research results to answer research questions and providing recommendations regarding the implementation of environmental management accounting at the Az-Zahra Clinic.

The results of this analysis are compared with environmental management theory and applicable regulations to identify gaps and provide recommendations for improving waste management and environmental cost accounting in the clinic.

4. Results and Discussion

Clinical Operational Waste

Waste generated from the clinic's operational activities includes liquid, solid, and gaseous waste. In addition, there is B3 (Hazardous and Toxic Materials) waste that requires special treatment before disposal or further processing. Waste generated from the Az-Zahra Clinic's operational activities is categorized into two types:

a. Solid Waste, Clinical solid waste includes disposable medical equipment, infectious materials, and domestic waste from clinical activities.
b. Liquid waste, Clinical liquid waste comes from leftover medical fluids, chemicals and laboratory waste which may contain hazardous substances.

According to Ms. Devi Astriani, SE, M.Ak, an Accounting lecturer, waste generated from healthcare activities is both medical and non-medical. Generally, medical waste tends to be more hazardous, requiring appropriate management to minimize negative impacts. However, this is more relevant for hospitals due to their larger scale of activity compared to clinics. The more patients and treatment activities, the greater the amount of waste generated. Therefore, it is natural that clinics do not implement strict environmental management accounting because the number of patients and activities is not as high as in hospitals. Nevertheless, waste management must still be carried out properly, considering that medical waste has a greater potential for harm than non-medical waste. The implementation of environmental accounting in clinics is optional and must be tailored to the needs and objectives of the clinic. If environmental cost disclosure is deemed necessary, it can be done by competent human resources. If it is not yet presented in the social information report, this is not a problem due to the small scope of the clinic. However, environmental costs can still be recorded in the income statement as a reduction in profit, to ensure transparency in recording expenses related to waste management. Thus, even though clinics produce smaller amounts of waste than hospitals, environmental management must still be a primary concern.

Clinical Waste Management Process

One of the results of Az-Zahra Clinic's operational activities is waste. Before being disposed of in a landfill (TPA), waste from Az-Zahra Clinic must undergo a processing process to prevent environmental pollution. There are two types of waste at the clinic, each with a different processing method. The waste processing process at the clinic involves several stages. The following are the stages and processing flow for both types of waste:

1) Stages of Medical and Non-Medical Solid Waste Processing

Stages of solid waste management at Az-Zahra Clinic: (a) Waste is collected in special containers using plastic bags. (b) Waste is sorted into medical and non-medical categories; medical waste is separated to prevent disease transmission. (c) Sorted waste is stored temporarily in a special area following safety standards. (d) Medical waste is sterilized or incinerated, while non-medical waste is recycled or disposed of per regulations. (e) Processed waste is finally disposed of at an official landfill (TPA) according to environmental standards.

2) Stages of Liquid Waste Processing

Stages of liquid waste management: (a) Collection and Separation – Liquid waste is collected through a dedicated system, separating medical and non-medical waste for proper treatment. (b) Initial Filtration – Solid particles and hazardous materials are filtered out. (c) Neutralization and Sterilization – Hazardous chemicals are neutralized, and sterilization eliminates harmful microorganisms. (d) Biological Processing – Neutralized waste is treated with bacteria or microorganisms to reduce harmful organic substances. (e) Quality Monitoring and Final Disposal – Processed waste is tested to meet environmental standards before being safely discharged into drainage systems or water bodies

Implementation of Environmental Management Accounting at Az-Zahra Clinic

1) Overview of Environmental Costs at Az-Zahra Clinic, Karawang Regency

Environmental costs are funds allocated by an organization as a form of responsibility for maintaining environmental sustainability. Az-Zahra Clinic in Karawang Regency, as a healthcare service provider, generates waste from its operational activities, which is classified into two main types. Liquid waste originates from clinical activities such as laboratory and emergency room services, while solid waste is divided into medical waste—such as used syringes, infusion bottles, and bandages—and non-medical waste. Interviews with clinic managers emphasized that proper waste management is essential to minimize negative environmental impacts. This study compares primary data from interviews and secondary data from the clinic to identify the environmental costs incurred in waste management.

2) Environmental Cost Recognition at Az-Zahra Clinic, Karawang Regency

Environmental cost recognition at Az-Zahra Clinic is related to how transactions are recorded and reported in financial statements. The clinic records various environmental costs associated with operational activities, including waste transportation, electricity tokens, garbage fees, and oxygen purchases. However, the recording system is still manual and uses a cash-based method, where costs are recognized only when payments are made and must be supported by authentic proof, such as receipts. According to Mr. Tengku Fadilah, as the person in charge, nurses or administrative staff manually record these costs at the end of each shift. Although the clinic has implemented medical waste management following standard procedures, environmental management accounting has not yet been applied, causing a lack of transparency and inefficiency in optimizing the waste management budget.

Table 1 Estimated operational and environmental costs at Az-Zahra Clinic in 2024

Cost Category	Cost breakdown	Estimated Monthly Cost (Rp)	Estimated Cost Per Year (Rp)
General Operating Expenses			
On-call doctor's salary	Honorarium per doctor on duty	12,000,000	144,000,000
Nurse & Admin Salary	7 People x Rp. 1,000,000	7,000,000	84,000,000
Electricity Payment	Clinic Electricity Costs	2,700,000	32,400,000
Water Payment	Clean Water for Clinic Operations	0	0
Internet Costs	Internet Connection for Operation	400,000	4,800,000
Electronic Medical Record Application Fee	Digital Medical Records System		5,500,000
Purchase of Medical Equipment & Operational Materials	Medical Equipment & Clinical Supplies	2,000,000	8,000,000

Cost Category	Cost breakdown	Estimated Monthly Cost (Rp)	Estimated Cost Per Year (Rp)
Environmental Costs (Waste Management)			
Hazardous Waste Transportation Costs	Contract With Waste Vendor	300,000	3,600,000
Garbage Fee	Non-Medical Waste Disposal Fees	40,000	480,000
Purchase of Cleaning Materials & Tools	Disinfectant, Waste Bags, etc.	300,000	3,600,000
Compliance & Technology Costs			
Workforce Training	Waste Management Education	0	
Environmental Audit	Regulatory and Procedural Review	0 (Local Government)	
Implementation of Monitoring Technology	Automatic Waste Monitoring System		2,000,000
Total Cost		24,740,000	288,380,000

Source: Data processed by researchers

According to Table 1, the largest costs come from salaries of medical and administrative staff. Doctors receive a daily salary that varies depending on the procedure performed, while nurses and administrators receive a fixed monthly salary. Other operational costs include electricity, internet, medical records, medical equipment, medical waste, and cleaning needs. Some amenities, such as water, workforce training, and environmental audits, are free, helping to reduce the burden of expenses.

3) Environmental Cost Measurement at Az-Zahra Clinic

Az-Zahra Clinic measures environmental costs in rupiah based on actual expenditures and by referring to budget data from previous periods. This method follows a historical cost approach, where evaluation is based on recorded transactions. According to Mr. Tengku Fadilah, PIC of Az-Zahra Clinic, environmental cost measurement includes adjusting fees for on-call doctors, electricity, internet, electronic medical record applications, as well as garbage and B3 (hazardous and toxic materials) waste transportation costs with vendors. Additionally, the clinic considers the purchase of cleaning materials and equipment as part of its environmental cost calculation.

4) Environmental Cost Disclosure at Az-Zahra Clinic

The disclosure of operational costs at Az-Zahra Clinic is presented in the Notes to the Financial Statements (CALK), which generally includes routine expenses such as salaries, electricity, water, and medical supplies. However, environmental costs—including medical waste

management, energy efficiency, and compliance with environmental regulations—are not specifically separated or disclosed. According to Mr. Tengku Fadilah, these costs are still recorded together with other operational expenses, but there are plans to disclose them separately in the future to enhance transparency, support audits, and demonstrate the clinic's commitment to environmental compliance and sustainability. Such transparency is crucial for building stakeholder trust and supporting sustainability-oriented decision-making.

5) Presentation of Environmental Costs at Az-Zahra Clinic

The presentation of environmental costs is carried out through digital and manual systems. Digitally, all financial transactions, including waste management, electricity, and medical material costs, are recorded using applications or spreadsheets such as Google Sheets or Excel. At the end of each shift, the admin or nurse summarizes the financial report, calculates the final balance, and uploads it to a special WhatsApp group monitored by the clinic owner to ensure accuracy and real-time transparency. Manually, transactions are also recorded in a physical cash book as a backup in case of technical issues. According to Mr. Tengku Fadilah, both methods are implemented daily to ensure accurate and accountable reporting. However, environmental costs are not presented separately; they are combined with other operational costs, such as maintenance and material purchases for clinic operations.

5. Discussion

1. **The Importance of Environmental Management Accounting in Waste Management**
   Environmental management accounting is crucial for recording, measuring, and managing environmental costs to improve efficiency, transparency, and compliance with regulations. Az-Zahra Clinic faces challenges in managing medical and non-medical waste, as environmental costs are still recorded as general operating expenses without a structured system. Improving the recording and reporting of these costs would enhance resource allocation, strengthen public and regulatory trust, and demonstrate the clinic's commitment to environmental sustainability.
2. **The Relationship of Legitimacy Theory to Waste Management at Az-Zahra Clinic**
   Legitimacy theory highlights the importance of proper medical waste management to maintain Az-Zahra Clinic's reputation and public trust. Poor waste management risks legal sanctions and loss of social legitimacy, while transparent recording and reporting strengthen legitimacy, support sustainability, and build stakeholder confidence. Applying this theory helps the clinic balance regulatory compliance, operational sustainability, and public trust.
3. **Identification and Classification of Az-Zahra Clinic Waste**
   Az-Zahra Clinic produces two types of waste: (1) Solid waste, consisting of medical and non-medical waste, stored in special containers and sterilized or incinerated before final disposal; and (2) Liquid waste, which undergoes separation, filtration, chemical neutralization, sterilization, and biological treatment before being discharged into the drainage system. Challenges include limited temporary storage, insufficient staff training, and manual monitoring and documentation prone to errors.
4. **Environmental Fees at Az-Zahra Clinic**
   Az-Zahra Clinic records environmental costs as part of general operating expenses, including waste transportation, cleaning supplies, and payments to third-party vendors, without specific separation in financial statements. Cost measurement uses the historical cost method, based on actual expenses such as waste management, electricity, water, and internet. Environmental costs are not explicitly disclosed, causing limited transparency. Recording is done both digitally (Google Sheets, Excel) and manually (cash book), but still combined with other operational costs, making environmental expenses unclear.

6. Conclusions

Based on the analyzed data and discussions conducted by researchers regarding the implementation of environmental management accounting at the Az-Zahra Clinic in Karawang Regency, the following conclusions can be drawn: Waste management at the Az-Zahra Clinic has been carried out through a sorting system, temporary storage, and destruction of medical waste through a third-party vendor. However, limited storage facilities and minimal workforce training remain obstacles. Environmental cost recording is still manual with a cash-based approach, so it has not been integrated with the clinic's financial system. This risks reducing transparency and accuracy in environmental cost management. Environmental costs are measured using the historical cost method, but have not been specifically implemented and are still included in the general operational costs category. Environmental costs have not been explicitly disclosed in the financial statements, thus reducing the clinic's transparency and accountability in environmental sustainability aspects. Environmental costs are presented using digital methods (Google Sheets, Excel) and manual (cash book), but there is no clear classification related to environmental costs.

Sugestion

Based on the research on the application of Environmental Management Accounting in waste management at Az-Zahra Clinic, Karawang Regency, several recommendations for future studies are proposed:

1. Comparative Analysis with Other Clinics – Conduct comparative research with other clinics in Karawang or other regions to identify differences in practices and challenges in implementing environmental management accounting.
2. Development of a Digital Accounting System – Develop an integrated, digital-based environmental accounting system to enhance transparency and accuracy in recording environmental costs.
3. Evaluation of Financial Impact – Analyze how specific recording of environmental costs affects long-term operational cost efficiency in clinics.
4. Qualitative Study on Management Awareness – Examine the level of understanding and awareness among clinic management and medical staff regarding the importance of environmental management accounting in medical waste management.
5. Assessment of Social and Environmental Impacts – Investigate how the implementation of environmental management accounting contributes to environmental sustainability and its effects on surrounding communities.

References

[1] Aripin, Z., & Negara, M. R. P. (2021). Akuntansi Manajemen. Yogyakarta: Deepublish.
[2] Franciska, R. M., Sondakh, J. J., & Tirayoh, V. Z. (2019). Analisis penerapan akuntansi biaya lingkungan pada pt. royal coconut airmadidi. Going Concern: Jurnal Riset Akuntansi, 14(1).
[3] Ikhsan, A. (2019). Akuntansi Manajemen Lingkungan. Yogyakarta: Graha Ilmu.
[4] Indariyani, R. T. (2023). Analisis Penerapan Akuntansi Manajemen Lingkungan Terhadap Kinerja Lingkungan (Studi Pada Rumah Sakit Umum Daerah Jombang). STIE PGRI Dewantara Jombang.
[5] Karo, R. O. P. B. (2019). Analisis Pengelolaan Limbah Medis Padat di RSUP H. Adam Malik Medan Tahun 2019. Universitas Sumatera Utara.
[6] Kemenkes RI. (2022). Profil Kesehatan Indonesia. Jakarta: Kementerian Kesehatan Republik Indonesia.
[7] Kepakisan, I. G. A. A. P. D., & Budiasih, I. G. A. N. (2022). Sustainability Report dan Manajemen Laba Dengan Good Corporate Governance Quality Sebagai Pemoderasi. E-Jurnal Akuntansi, 32(2), 3819–3833.
[8] Miles, M. B., & Huberman, A. M. J. S. (2024). Qualitative Data Analysis, A Methods Sourcebook. USA: Sage Publications.
[9] Peraturan Perundang-undangan. (2009). Undang-undang (UU) Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup. Indonesia: Pemerintah Pusat.
[10] Prasetyo, B., Mulyani, A., & Wulandari, T. (2020). Analisis Kendala dalam implementasi Akuntansi Manajemen Lingkungan di Rumah Sakit Daerah. Jurnal Akuntansi Dan Manajemen Lingkungan, 7(2), 45–57.
[11] Putri, A., & Wahyuni, R. (2022). Integrasi Akuntansi Manejemen Lingkungan dalam Keuangan Rumah Sakit. Jurnal Kesehatan Masyarakat, 10(1), 55–70.
[12] Radar Sukabumi. (2021). Limbah Medis di Karawang Capai 22 Ton per hari. Retrieved from Radar Sukabumi website: https://radarsukabumi.com/jawa-barat/karawang/limbah-medis-di-karawang-capai-22-ton-per-hari/#google_vignette
[13] Rahmawati, N. (2021). Penerapan Manajemen Lingkungan di Puskesmas Kota Yogyakarta. Jurnal Akuntansi Dan Keuangan, 14(4), 112–129.

[14] Rahmayani, L., & Anggraini, D. T. (2021). Determinan Profitabilitas Industri Perbankan yang Terdaftar di Bursa Efek Indonesia. Jurnal Akuntansi Dan Governance, 2(1), 66–75.
[15] Sari, L., & Yulianto, H. (2019). Evaluasi Pencatatan Biaya Lingkungan di RSUD Dr. Moewardi Surakarta. Jurnal Akuntansi Perusahaan, 7(2), 33–48.
[16] Setyowati, I., Wicaksono, T., & Dewi, S. (2019). Efisiensi Pengelolaan Limbah dengan Akuntansi Manjemen Lingkungan.
[17] Sugiyono. (2022). Metode Penelitian Kuantitatif,kualitatif (ALFABETA, Ed.). Bandung.
[18] Syadiah, S. M., Kuswarini Sulandjari, & Nur'azkiya, L. (2023). Analisis Risiko Produksi Padi Pada Lahan Petani Binaan Program Makmur Di Kabupaten Karawang. Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis, 9(2), 3069–3083.
[19] Syarif, A. M., & Novita, N. (2018). Environmental management accounting with material flow cost accounting: strategy of environmental management in Small and Medium-sized Enterprises production activities. Indonesian Management and Accounting Research, 17(2), 143–167.