

# Analysis of the application of environmental cost accounting Siti Khodijah Muhammadiyah Hospital Branches, Sepanjang, Sidoarjo

G Desipradani<sup>1\*</sup> and F Senoaji<sup>2</sup>

<sup>1</sup> Accounting Department, Universitas Muhammadiyah Surabaya, Surabaya, Indonesia

<sup>2</sup> Management Department, Universitas Muhammadiyah Surabaya, Surabaya, Indonesia

\*Corresponding author email: [gitadesipradani@um-surabaya.ac.id](mailto:gitadesipradani@um-surabaya.ac.id)

## Abstract

The development of hospitals in a digital society has a major influence on improving and improving public health in Indonesia. Hospital waste needs to be managed as a form of social responsibility in environmental safety. The research aims to find out how the waste management process works and how environmental cost accounting is implemented at the Muhammadiyah Siti Khodijah Hospital Branch Sepanjang, Sidoarjo. This type of research uses a qualitative descriptive approach. Data analysis was carried out based on information relating to the identification, measurement, recognition, presentation and disclosure of hospital environmental costs. The results of the research show that the Muhammadiyah Siti Khodijah Hospital Branch Sepanjang Sidoarjo has implemented environmental cost calculations, hospital waste management, and implemented environmental cost accounting reports for waste generated from its operational activities. This provides information to the public that the Muhammadiyah Siti Khodijah Hospital Branch Sepanjang, Sidoarjo has taken responsibility for maintaining environmental health.

## Keywords:

Environmental cost, Accounting, Hospital

### Published:

October 20, 2024

This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/)

Selection and Peer-review under the responsibility of the 5<sup>th</sup> BIS-HSS 2023 Committee

## Introduction

The development of hospitals in a digital society has a major influence on improving and improving public health in Indonesia. Hospital waste needs to be managed as a form of social responsibility in environmental safety. Minister of Health Regulation Number 2 of 2023 regulates technical requirements for waste management and supervision of waste originating from health facilities. Article 24 states that all health facilities are required to process the medical and non-medical waste produced. Dealing with hospital waste will inevitably result in costs. To keep the hospital's financial sustainability stable, costs must be managed well. Hospitals must take further action to manage human resources, tools

and facilities, finances, etc. to become a clean hospital and meet environmental health requirements. This is necessary considering the negative impact of hospital waste on the environment. Environmental costs are costs caused by poor or possible environmental quality (Talib et al., 2022). From this definition, it can be concluded that environmental costs mostly come from production processes that produce waste or waste that has an impact on the environment. In addition, prevention processes are carried out to prevent pollution. Environmental costs are divided into four types, namely prevention costs, detection costs, internal failure costs, and external failure costs. Of the four categories of environmental costs, to calculate waste handling costs, it is necessary to use systematic and correct accounting. In addition, recognition, measurement, assessment, delivery and disclosure of corporate environmental cost accounting is very important to prove that the company carries out social responsibility to society (Hansen & Mowen, 2007).

The implementation of the Green Hospital concept has begun in hospitals in Indonesia. There are several dimensions and criteria for green hospitals in Indonesia. One of the points highlighted in the dimensions and criteria of green hospitals (Amelia & Ilyas, 2023). Related to the research is the environmental section related to medical waste processing. In carrying out its operations, hospitals produce quite large and dangerous medical waste (Dahlia et al., 2021). Environmental cost accounting is required by various stakeholders, as a consideration for decision making on the Green Hospital concept for both internal and external parties.

## Literature Review

### *Environmental Accounting*

Environmental accounting is one of the focuses of sustainable accounting (sustainable accounting focus: financial accounting, social accounting and environmental accounting). Environmental accounting makes environmental transactions the object of its process and produces output in the form of reports containing environmental information (Ma'rifat et al., 2022).

### *Environmental Costs*

Environmental costs are costs that occur due to poor environmental quality or poor environmental quality that may occur (Hansen & Mowen, 2007). Environmental costs are costs incurred by a company related to the environmental damage caused and the protection carried out. Environmental costs include both internal costs (related to reducing production processes to reduce environmental impacts) and external costs related to repairing damage caused by waste generated (National et al., 2019).

### *Hospital Waste and Management*

According to hospital waste, it is all waste generated from hospital activities and other supporting activities, both medical and non-medical. In developing an industry, especially one that requires large areas of land and has the potential to cause pollution,

it is also necessary to implement development planning that does not only pay attention to aspects of infrastructure and market proximity which are the main considerations. However, long- term aspects must also be looked at. For this reason, the very rapid industrial growth must continue to pay attention to aspects of environmental conservation for the benefit of current and future generations. The government and the people who live in industrial areas of course want industrial areas that are environmentally friendly (Islamey, 2016). The definition of hospital waste is all waste produced from hospital activities in the form of solid, liquid, paste (gel) or gas which can contain infectious pathogenic microorganisms, toxic chemicals, and some are radioactive (Pelaihari, 2017). Hospital waste tends to be infectious and toxic chemicals which can affect human health, worsening environmental sustainability if not manage properly.

### *Environmental Cost Allocation Treatment Stages*

This stage is carried out in order to ensure that the budget allocation that has been prepared for the one-year accounting period can be implemented appropriately and efficiently. *A Handbook of Industrial Ecology (2015)* reveals that the recording of financing for managing waste released from the remaining production of a business is allocated in certain stages, each of which requires costs that can be accounted for, and the recording stages can be carried out. before the current accounting period corresponds to the production process carried out by the company.

### **Methods**

This research uses descriptive qualitative approach. Mukhtar (2013) states that qualitative descriptive research is research that is intended to reveal an empirical fact in an objectively scientific manner based on scientific logic, procedures and supported by strong methodology and theory according to the scientific discipline being studied. The research location is Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo, Bebekan RT/RW 02/01 Taman Sidoarjo 61257 East Java, Indonesia. The actors or subjects of the research are Accounting Sub -Section Employees and Health and Environment Unit (Kesling) employees who handle hospital medical waste management.

### **Result and Discussion**

#### *Hospital Profile*

Siti Khodijah Hospital is a type B hospital and is one of the health businesses belonging to Persyarikatan Muhammadiyah under the auspices of the Muhammadiyah Branch Leadership Throughout which is supported by modern facilities and professional and Islamic human resources. The Vision is “The realization of the Siti Khodijah Muhammadiyah Hospital, a superior, professional, Islamic and leading branch in East Java.” The motto is “*Ikhlas dan ihsan* in service.” Then, the Mission are:

1. Organizing Services and Service Networks as a Quality Main Referral Hospital

2. Providing superior health services in the areas of: Trauma & Sports Center Care, Heart & Stroke Care, Cancer Care, Urology Care Hematology Center & Intensive Care.
3. Organizing Integrated Education and Research.
4. Creating human resources with excellence and noble character.
5. Continuously Improve Quality & Patient Safety.
6. Carrying out Islamic Da'wah Amar Makruf Nahi Munkar.

### *Hospital Solid Waste and Liquid Waste Management*

Management of solid medical waste (infectious waste) such as used syringes or used IV bottles, Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo collaborates with parties (vendors) who already have permits (Tripartid MOU) for the transportation and destruction of this waste, namely PT Jaya Jagat Raya and PT Jasa Medifest. Management of non-medical solid waste (non-infectious waste), for example paper, plastic used for syringe packaging, and medicine cardboard, is carried out by involving residents around the hospital as transporters of non-medical waste sent to the Sidoarjo Park Final Waste Disposal Site (TPST). The selection of medical waste is carried out in the waste generating unit which includes non-medical waste, medical waste, sharps waste and infusion bottle waste. Waste transportation is carried out morning, afternoon, evening and night by Hospital cleaning service officers. Waste collection from the Hospital Waste Disposal Site (TPS) is carried out every day. The medical liquid waste management process is processed through a tool, namely the Waste Water Treatment Plant (IPAL) using an aerobic (requires oxygen) and anaerobic (does not require oxygen) system. The results of this wastewater treatment will produce water that is not dangerous and toxic in accordance with the predetermined limits, which will be safe if disposed of through water bodies.

### *Recording Sanitation Costs*

Tanfidz Guidelines for Accounting Policies for Muhammadiyah/Aisyiyah Hospitals throughout East Java, issued by the Muhammadiyah East Java Regional Leadership, are the basis for recording sanitation costs in hospitals. All accounting transactions in the Hospital also use accounting applications (software) making it easier for the recording, presentation and accounting reporting processes. The waste costs of Siti Khodijah Muhammadiyah Hospital Branches Sepanjang Sidoarjo are recorded in the sanitation costs account. With the flow, the billing file is deposited by the relevant unit, to the accounting department to be included in the Cash Disbursement Journal. After obtaining approval from the Head of Finance, the money can be disbursed and taken to the Treasurer for the payment process. Meanwhile, files that have been paid are submitted to the accounting department for archiving. The types of Sanitation Costs for Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo are presented in [Table 1](#).

Recognition of sanitation costs at Siti Khodijah Muhammadiyah Hospital Branches Sepanjang Sidoarjo, if these costs have been incurred for hospital operations in

managing the environment. Measurement of sanitation costs at the Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo uses historical values in rupiah currency units.

**Table 1.** Types of Sanitation Costs for Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo

Type of cost	Details
Water Analysis Fee	wastewater test sampling fee kitchen drinking water sampling fee tank water biological sampling fee purchase of PH paper to check clean water wastewater analysis fee
Waste Disposal Cost	cost of garbage men's salaries rubbish fee
Medical Waste Disposal Cost	payment to PT Jaya Jagat Raya
Other Sanitation Costs	purchase of grass medicine food E-Coli sampling cost purchase of fly medicine purchase water based & handspun u/fogging purchase 25 yakult u/ make bacteria
Equipment Cost of Central Sterile Supply Department (CSSD)	purchase of 25 CSSD RO equipment filters medical device sterilization cost Central Sterile Supply Department sterilization cost drug and medical device consumables consumables and office stationery

### Presentation of Sanitation Costs

Hospital Branch Sepanjang Sidoarjo is presented in the Profit and Loss Report, which contains income and expenses (Table 2).

**Table 2.** Presentation of sanitation costs for Muhammadiyah Hospital Branches Sepanjang Sidoarjo

Account name	Period (Rp)	Accumulation (Rp)	Accomplishment %
Water Analysis Fee	1,776,000	1,776,000	100%
Waste Disposal Cost	2,700,000	2,700,000	100%
Medical Waste Disposal Cost	87,792,264	87,792,264	100%
Other Sanitation Costs	881,548	881,548	100%
Equipment Cost of Central Sterile Supply Department (CSSD)	44,514,410	44,514,410	100%

Voluntary disclosure of sanitation costs at the Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo is related to the financial information of an agency such as a hospital in the Notes to Financial Reports (CALK).

### Implementation of Environmental Cost Accounting at Siti Khodijah Muhammadiyah Hospital Branches Sepanjang Sidoarjo

Every hospital is required to have its own waste processing facility, namely a Waste Water Treatment Plant (IPAL) to facilitate and optimize hospital health efforts from waste pollution. Apart from that, the existence of a Waste Water Treatment Plant (IPAL) will increase the costs associated with processing hospital waste. With these costs, the hospital can implement environmental accounting, with the aim that the costs resulting from waste processing can be recorded and posted properly in the company's financial reports. The allocation of costs for Waste Water Treatment Plants (IPAL) at Siti Khodijah

Muhammadiyah Hospital Branches Sepanjang Sidoarjo, is included in the allocation of Sanitation Costs.

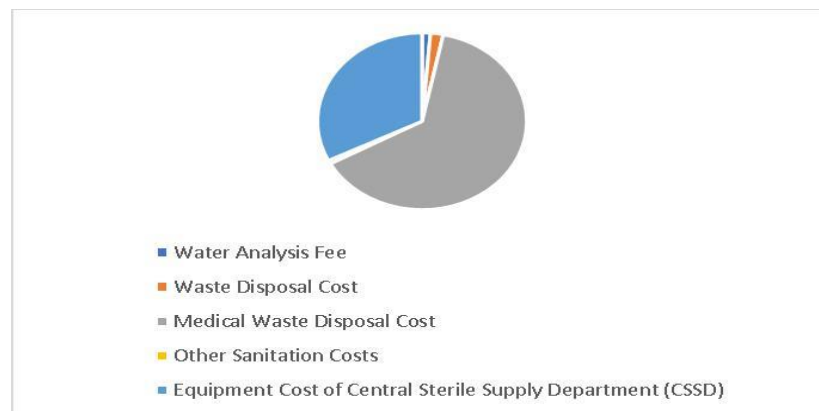


Figure 1. Allocation of Sanitation Cost

Based on the Figure 1, medical waste disposal costs have more color sections than other color sections, this means that the environmental cost allocation expenditure at Siti Khodijah Muhammadiyah Hospital Branch Sepanjang Sidoarjo is quite large and illustrates the implementation of environmental cost accounting that is running well in accordance with Hospital IPAL regulations. Disclosures regarding environmental accounting in Indonesia are still not specifically regulated in accounting standards, meaning that reporting of environmental information in company annual reports is still voluntary. However, Siti Khodijah Muhammadiyah Branch Sepanjang Sidoarjo have carried out environmental accounting reporting and presentation in accordance with the Financial Accounting Standards Guidelines (PSAK) No. 1 which states that "Companies can also present, from financial reports, reports on the environment and reports on added value, especially for industries where environmental factors are significant and when employees are considered as a group of users of financial reports who play an important role".

## Conclusion

Muhammadiyah Siti Khodijah Hospital Branch Sepanjang Sidoarjo has implemented environmental cost calculations, hospital waste management, and implemented environmental cost accounting reports for waste generated from its operational activities. The Muhammadiyah Hospital Branch Sepanjang Sidoarjo has taken responsibility for maintaining environmental health and providing benefits from waste to residents around the hospital, by involving residents around the Hospital as transporters of non-medical solid waste which is sent to the Tempat Pembuangan Sampah Terakhir (TPST) Taman in Sidoarjo.

## References

- [1] A Handbook of Industrial Ecology. (2015). In *A Handbook of Industrial Ecology*. <https://doi.org/10.4337/9781843765479>
- [2] Amelia, S., & Ilyas, J. (2023). *Hospital Pada Dua Rumah Sakit Di Indonesia*. 8(9).



- <https://doi.org/10.36418/syntax-literate.v6i6>
- [3] Hansen, D. R., & Mowen, M. M. (2007). *Managerial Accounting*, 8th Edition. In *ThompsonSouth-Western*.
  - [4] Dahlia, I., Melsyah Putri, E., Edri, F. (2021). *Analisis Penerapan Akuntansi Lingkungan Pada Rumah Sakit* (Vol. 1, Issue 1).
  - [5] Islamey, F. E. (2016). Perlakuan Akuntansi Lingkungan Terhadap Pengelolaan Limbah Pada Rumah Sakit Paru Jember. *Jurnal Fakultas Ekonomi Universitas Muhammadiyah Jember*, 1(1).
  - [6] Ma'rifat, H., Muchlis, S., & Jannah, R. (2022). Makna Kajian Akuntansi Lingkungan Pada PT Semen Bosowa Maros. *Jurnal Ilmiah Akuntansi Peradaban*, 8(2). <https://doi.org/10.24252/jiap.v8i2.32005>
  - [7] Mukhtar. (2013). *Metode Praktis dan Penelitian Deskriptif Kualitatif* Mukhtar. (2013). *Metode Praktis dan Penelitian Deskriptif Kualitatif*. Jakarta: Referensi (GP Press Group. *Jakarta: Referensi (GP Press Group*.
  - [8] National, G., Pillars, H., Yenti, E., Candra, R., Juliati, R. A., Ratu, M. K., Meiriasari, V., Gaendie Mustika Ladyve, N. S. A., Putri, P. A. H., Sahputra, R., Situmorang, M., Fadillah, H., Asjuwita, M., Agustin, H., Sayyida, Z. dan, National, G., Pillars, H., Restrepo Klinge, S., Siregar, I. F., ... Sinarwati, N. K. (2019). Environmental Management Accounting (EMA): Memposisikan kembali biaya lingkungan sebagai informasi strategis bagi manajemen. *Balance. Nuevos Sistemas de Comunicación e Información*, 1(2).
  - [9] Pelaihari. (2017). *Definisi Lingkungan Hidup Indonesia*. Dprkplh.Tanahlautkab.Go.Id.
  - [10] Talib, F., Niswatin, & Mahmud, M. (2022). Penerapan Akuntansi Biaya Lingkungan Pada RSUD Otanaha Kota Gorontalo. *Jurnal Mahasiswa Akuntansi*, 1(1).