

## **HANDLING EXTERNALITIES IN ENVIRONMENTAL ACCOUNTING AT XYZ HOSPITAL: A PERSPECTIVE OF AMANAH METAPHORS**

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### **ABSTRACT**

This research aims to determine the handling of externalities and their implications for the implementation of environmental accounting at RSUD XYZ (XYZ Hospital) from the perspective of the amanah metaphor. The method used is qualitative research with a case study approach at XYZ Hospital. Data was collected through observation, interviews, and documentation. Data validity was also tested using two types of triangulation. The results show XYZ's Hospital commitment to maintaining environmental balance and reducing the negative impacts of its operations by taking health, safety, and environmental control measures in accordance with Minister of Health Regulation No. 7 of 2019 concerning hospital environmental health. In terms of the application of environmental accounting, XYZ Hospital still does not specifically separate environmental burdens from supply and service burdens. From the perspective of amanah metaphors XYZ Hospital has fulfilled its responsibilities, including those of the trust giver, the trust recipient, and the trust itself.

*Keywords: Environmental Accounting, Externality, Metaphor Trust, XYZ Hospital*

### **ABSTRAK**

ABSTRAK Penelitian ini bertujuan untuk mengetahui penanganan eksternalitas dan implikasinya terhadap penerapan akuntansi lingkungan di RSUD XYZ (RS XYZ) dari sudut pandang metafora Amanah. Metode penelitian yang digunakan adalah metode kualitatif dengan pendekatan studi kasus di RS XYZ. Data dikumpulkan melalui observasi, wawancara, dan dokumentasi. Keabsahan data diuji dengan menggunakan dua jenis triangulasi. Hasil penelitian menunjukkan bahwa RS XYZ telah menunjukkan komitmen dalam menjaga keseimbangan lingkungan dan mengurangi dampak negatif operasionalnya dengan melakukan tindakan kesehatan, keselamatan, dan pengendalian lingkungan sesuai dengan Peraturan Menteri Kesehatan No.7 Tahun 2019 tentang kesehatan lingkungan rumah sakit. Dalam penerapan akuntansi lingkungan, RS XYZ masih belum secara spesifik memisahkan beban lingkungan dari beban persediaan dan jasa. Dari sudut pandang metafora amanah, RS XYZ telah memenuhi tanggung jawabnya, baik kepada pemberi amanah, penerima amanah, dan amanah itu sendiri.

*Kata kunci: Akuntansi Lingkungan; Eksternalitas; Metafora Amanah; RSUD XYZ.*

## 1. INTRODUCTION

In the era of globalization, the problem of natural damage and global warming is a major concern. There have been many ecological disasters and increasingly severe degradation of the earth's ecosystems, resulting in serious impacts such as deforestation, water shortages, and poverty (Murphy & Smolarski, 2020). One of the causes of global warming is the exploitation of nature by humans without accountability (Nurhidayat et al., 2020). This situation became the basis for establishing the Environmental Pollution Control Association (Asosiasi Pengendalian Pencemaran Lingkungan/APPLI) in Indonesia.

The Environmental Performance Index 2022 (EPI) report states that environmental conservation in Indonesia on a global scale is included in the bad category. Indonesia's position is ranked 22nd out of 25 Asia Pacific countries and ranked 8th out of 10 ASEAN countries. Indonesia scored low on all indicators, with a breakdown of ecosystem survival scores of 34.1, environmental health 25.3 and climate change mitigation policies 23.2 out of 100. EPI said low scores were received by countries that prioritize economic growth over environmental sustainability.

The Ministry of Environment and Forestry (MoEF) emphasized the importance of collaborative work in solving complex environmental problems. Environmental problems cannot be solved alone; participation from all parties is needed, both government, private, NGOs and even households (DLHK, 2021). Currently, companies must not only focus on seeking profit (profit) but also must pay attention to social aspects (people) and the environment (planet), which is often referred to as the "Triple Bottom Line" (Winarno, 2016).

In addition to companies, the role of non-profit organizations such as hospitals in damaging the environment also cannot be ignored. The ombudsman recorded 138 tonnes of medical waste that was not appropriately managed. This problem has the potential to harm human health and pollute the environment. In addition, the Ministry of Environment and Forestry noted that since the pandemic began, there has been an increase in the amount of medical waste reaching 30%, with a total of 1,100 tons (data as of June 8, 2020).

Therefore, hospitals must follow up in managing all aspects, including human resources, equipment, facilities, and finances, to create a clean hospital environment and meet environmental health standards. In this context, hospitals must be able to provide medical services and manage the waste they produce (Annet & Naranjo, 2014). In other words, environmental management is an essential aspect of hospitals. Environmental accounting is a relevant topic in understanding environmental management, especially in measuring the costs companies bear as responsibility for the impact of environmental damage caused by their activities (Rahim & Fatimah, 2020).

Environmental accounting research in hospitals has been carried out by several researchers such as Elyafei (2010), Yogiswari et al. (2021), Ibrahim & Souleima (2019), Megananda (2019), and Indrawati & Intan (2018), but until now there has been no disclosure or separation of environmental costs following the existing theoretical framework. In addition, Wulandari & Rifandi

(2023) also show the lack of specific reports on environmental costs in hospitals, even though waste management has been going well and cost disclosure has been made. Furthermore, Susanti et al. (2021) emphasized the aspects of sharia maqashid, especially *hifdzul nafs* and *hifdzul bi'ah*, which focus on the comfort of patients and the community around RSU Haji Surabaya. Expenditure to maintain the environment and buildings and process hospital waste is a form of implementation of maqashid sharia (Busriyanti, 2016; Susanti et.al, 2021).

Rahim & Mus (2020) investigated the application of environmental accounting to public companies (not religious organizations). By actualizing the teachings of Islam, it is known that the company has carried out and expressed preservation activities, taking into account the value of monotheism and the purpose of human creation as *caliph fil ardh*. However, the study did not disclose in detail the environmental costs incurred by the company. Abdullah et al. (2021) again examined environmental accounting at Islamic hospitals based on the metaphor of Trust. However, this study also did not include information on the environmental costs of hospitals.

Unlike the previous study, in this study, the metaphorical value of *amanah* is used as an implication of human responsibility as *caliph fil ardh* on earth. This research was also conducted at XYZ Hospital, due to the lack of environmental accounting disclosure practices in government agencies from the perspective of trust metaphors. Therefore, this study aims to determine the handling of externalities and their implications on applying environmental accounting at XYZ Hospital from the perspective of trust metaphors.

## 2. LITERATURE REVIEW

### 2.1 SHARIA ENTERPRISE THEORY (SET) AND THE METAPHOR OF AMANAH

*Sharia Enterprise Theory* ( SET) continues *Enterprise Theory* (ET). Triyuwono (2006) said that although Islamic accounting has existed since 1997, Islamic accounting theory continues to look for ways to achieve Islamic goals. This is because the use of Islamic accounting in Islamic entities has not been able to fully break away from the characteristics and principles of conventional accounting.

Opportunistic and individualist values in conventional accounting are becoming a severe problem. Accounting seems to focus on the interests of capital owners (capitalists) and often ignores the interests of others. In addition, it can be seen that accounting appears to pay less attention to the company's impact on society, including environmental damage that can be caused by company waste (Astuti & Faisal, 2021).

A paradigm shift can be found in the concept of ET, where accounting in this theory plays a role in social and environmental development. This theory has a wider conceptual scope than previous theories. However, according to Triyuwono (2006), the concept of business theory is still considered "worldly".

Triyuwono (2006) then created SET by combining ideas from business theory and Islamic accounting. This concept shows that the principles of justice, truth, honesty, trustworthiness, and accountability contained in ET get spiritual inspiration or internalization from the values of Tawhid. The importance of Tawhid emphasizes that everything in this world belongs absolutely to Allah SWT. Therefore, man only has the right to manage and must follow the wishes of his owner, namely Allah Almighty.

In the SET, metaphors derive Islamic values in Islamic accounting. Triyuwono (1995) uses the metaphor of amanah as the basic assumption of Sharia company theory. "Verily we will create a caliph on earth" in verse 30 of surah Al Baqarah, which is the source of the metaphor of Trust.

The metaphor of amanah is used to understand and develop business and social organizations to create a more humane, emancipatory, transcendental, and teleological form of organization (Triyuwono, 2006). Trust refers to something entrusted to humans to be used according to the wishes of the Trustee. This means that the party receiving the Trust does not have ownership rights over what has been entrusted but has the obligation to maintain and utilize it in accordance with the wishes of the Trustee (Triyuwono, 1993).

In the context of this metaphor of Trust, there are three important key elements, namely the Trustee (God the Creator), who is the absolute owner of all resources, including Human Resources (HR) and Natural Resources (Sumber Daya Alam/SDA). With great power, God created man as His representative on earth (Khalifah fil Ardh) (Triyuwono, 1993).

## 2.2 ENVIRONMENTAL ACCOUNTING

Social and environmental accounting is defined an attempt to communicate the social and environmental impacts of an organization related to its economic activities to various interest groups in society and to society as a whole. This is done with the aim that the company not only provides financial statements to shareholders but also expands its responsibilities, especially related to environmental aspects. According to Mathews (1997), environmental accounting includes voluntary disclosure of information in qualitative and quantitative forms (financial and non-financial) carried out by organizations.

Environmental Accounting is a practice that includes integrating environmental costs into a company's accounting activities. The purpose of environmental accounting is to encourage companies to recognize and calculate all aspects of environmental management and take into account the estimated ecological costs arising from the negative impacts of the company's activities. Thus, environmental accounting becomes a relevant study in understanding environmental management, especially in measuring costs incurred by companies as a form of responsibility for the impact of environmental damage arising from their operations (Rahim & Fatimah, 2020).

The company must plan the recording and allocation of financing for environmental impact management, such as waste management, environmental pollution prevention, and other social impacts on society, before deciding on budget allocations during the accounting period. This step aims to

make the use of the planned budget can be implemented efficiently and accordingly. Adopting environmental accounting practices will help overcome limitations and weaknesses that may arise in accounting practices (Susanti et al., 2021).

Records related to company waste management should begin with planning, followed by grouping by specific categories. This allows companies to determine appropriate needs each year (Kingston, 2003). In the accounting analysis stage, the stages consist of:

#### 1. Identification

First, the company must determine the costs associated with mitigating the negative impacts that may arise during its operations by identifying these externalities. Environmental costs should be identified and classified differently by companies than costs in conventional accounting. This is done to provide better focus to management in making decisions (Hidayatulloh, 2017)

According to Ikhsan (2008), special accounting systems classify various types of costs, such as material and labor costs, manufacturing costs, factory overheads (operational costs other than direct material and labor costs), sales costs, general and administrative costs, and research and development costs.

#### 2. Confession

All elements identified by the company must be recognized as accounts or expenses. This recognition is made when the company has received benefits from the value that has been spent on environmental finance. Before the value or amount is allocated, it cannot be considered an expense. Costs can be recognized when the value has been paid, and the benefits have been received in the environmental management framework. Conceptually, recognition means conveying information through financial statements as the main element of financial reporting. Technically, recognition means officially recording the number of measurement results into the accounting system, which will then affect an item and be reflected in financial statements (Swardjono, 2013).

#### 3. Measurement

The measurement usually used by companies in preparing financial statements is *historical cost*. In environmental management, companies generally calculate the amount and value of costs that have been incurred in predetermined units of currency. This measurement of value and amount of costs refers to costs that have been incurred in the previous period to achieve the amount and value that corresponds to actual needs in each period. The purpose of this measurement is to determine the allocation of financing in accordance with the company's conditions. It should be noted that each company may have different measurement and value standards according to its own policies (Islamey, 2016).

#### 4. Serving

Presentation relates to how financial information will be presented in the financial statements. Costs associated with environmental management are usually presented together with similar costs in administrative and general sub-sub-costs. Presentation regulates the way elements or posts are reported in a series of financial statements to ensure that the elements or posts provide informative enough information (Swardjono, 2013).

### 5. Disclosure

Environmental accounting disclosure is the disclosure of environmental accounting data information from the point of view of the internal function of environmental accounting itself, which is in the form of environmental accounting reports. The report should be based on the actual situation of a company or other organization. Actual data is disclosed and determined by the company itself or other organizations (Sari, 2017). Until now, there are no specific regulations governing environmental cost accounting, so the practice of environmental cost accounting still depends on hospital policies and voluntary data disclosure (Abdullah et al., 2021).

## 3. RESEARCH METHODS

This study uses qualitative research methods, which aim to understand phenomena such as behavior, perception, motivation, and action experienced by research subjects (Moleong, 1989). The approach used in this research is the case study approach, which allows the researcher to investigate in depth a specific series of events, activities, processes, or individuals. In this method, the events are limited by specific time and activities, and researchers use various data collection techniques to obtain detailed information over a specific period (Creswell, 2009).

The research data consists of primary and secondary data. Primary data were collected through semi-structured interviews and non-participant observations, while secondary data were obtained through documentation such as the Budget Work Plan (RKA) and Budget Realization Report (LRA). There were seven informants interviewed, namely:

Table 1. Respondent Data

No.	Name	Position
1	Informer 1	Head of Environmental Health (Kesling).
2	Informer 2	Waste & radiation protection operators and vector & disease carrier animal control and society
3	Informer 3	Food health and sanitation facilities & building operators
4	Informer 4	Finance Officer
5	Informer 5	<i>Cleaning Service (CS)</i>
6	Informer 6	Community (Residents around the hospital)

No.	Name	Position
7	Informer 7	Community (Residents around the hospital)

The name of the hospital and the informant were not listed because they were not allowed by the informant. Data validity is ensured through two types of triangulation: multiple informants and data collection methods. The interview process is followed by observation and documentation for cross-validation of the data obtained. In addition, researchers also ask the same questions to different informants to see the consistency of the informant's answers. No more data or new information characterizes a measure of data saturation. Data analysis techniques refer to the interactive model of Miles & Huberman (1994) with three main activities: data reduction, data presentation and conclusion/verification. In this model, the three activities are interrelated before, during, and after data collection.

#### 4. RESULTS AND DISCUSSION

##### 4.1 HANDLING OF HOSPITAL OPERATIONAL EXTERNALITIES

RS has operational activities that can impact the environment (externalities). This impact caused the community to demand that the hospital be responsible for the surrounding environment. The use of environmental accounting by a company can be used as a way to communicate with society about the social and environmental impacts resulting from its activities. However, it is necessary to know in advance how the hospital handles the externalities of its operation. This is important because hospitals are required to manage the environment as a responsibility, not just voluntarily.

Researchers interviewed Informant 1 as the head of environmental health:

*"At XYZ Hospital, waste management and environmental health efforts are handled by the Environmental Health Unit (Kesling). There are seven activities that we must check quality and quantity. These activities include water health, air health, soil health, food health, facilities & building health, waste & radiation security, and vector and disease-carrying animal control."*

The management of health, security, and control in hospitals is not only carried out by the head of environmental health but involves operators and persons in charge in each field. Informant 1 further explained that:

*"Currently, other operators are also taking competency tests. So, in hospitals, the Environmental Agency (DLH) demands a certificate for every business owner who has a permit, such as hospitals and industries. They must have a certificate of the person in charge of water pollution if involved in operations related to water pollution."*

*This also applies to other operators taking competency tests related to these certificates."*

Every health operator in a hospital has a certificate according to their expertise; this is a regulation issued by DLH which requires every business owner with a license, such as hospitals and industries, to have a competency test certificate. The informant further explained:

*"There is also a competency test for PLB3 (B3 waste pollution prevention) that I participated in, but the person in charge is another operator. Furthermore, there is also air pollution control or prevention. Still, because generators in hospitals only operate less than 1000 hours per year, those related to PPU (Air Pollution Treatment) can only be handled by the person in charge without involving operators."*

The hospital stated that operators who do not have certificates are conducting competency tests, but for PPU, there are no special operators. He further explained:

*"Here, I monitor everything, but everyone takes one field; water health is the same as one operator, if for air and soil because the checking is not every day there is no person in charge, at most every 3 or 6 months, there is testing with the 3rd party. The person in charge of food and building facilities is the same operator as well; the rest are waste, and vectors are also there."*

Then, researchers tried to find out details about each activity carried out by the Environmental Health Subdivision in an effort to improve health, security, and control in hospitals. This information is provided by Informant 1, who is the head of environmental health, and the researcher also confirms with other informants or related parties:

#### 1. Water Health

Technical guidelines for the inspection of water supply facilities have been issued by the Directorate General of Infectious Disease Eradication (PPM) and Settlement Environmental Health (PLP) of the Ministry of Health, stating that drinking water facilities and clean water of hospitals must be inspected at least once a year. To prevent infection in hospitals, water health must be done properly, by ensuring the quantity and quality of water per established standards. Informant 1 then explained that:

*"Every day, there is a monitor; the operator is Mr. Yadi; later, he fills out the form every day to check it, starting from seeing the debit at the outlet, so the outlet, debit, and PH are monitored. If the clean water checks, the remaining chlorine, turbidity, and discharge are all reported through the form every day and sent to the group, the form delivery is at 9 o'clock, there is also TRK if it is a civil servant, so while he works it while reporting to the group"*



However, Informant 1 explained that water sanitation operators were in training. Because the operator was not in the next room, Informant 1 sent proof of documentation of water checks that were always carried out every day. Water laboratory testing is also carried out by a third party, namely LPKL Tirtawening, once a month, as evidenced by the existence of a certificate of water testing results.

## 2. Air Health

Air quality in hospitals is an essential factor in hospital health. In this case, XYZ Hospital always conducts air testing in the hospital environment, which was uttered by Informant 1:

*"If the air is the same as the soil, only once every six months, the inspection is the same as the 3rd party."*

According to the Indonesian Ministry of Health regulations, room air quality monitoring in hospitals is carried out at least 1 (one) time a year. From the interview results above, XYZ Hospital has conducted an examination every six months through a 3rd party. The test results are in the form of certificates.

## 3. Soil Health

The analysis showed that XYZ Hospital did not have its soil health operator. However, the hospital has established cooperation with third parties to conduct soil testing every six months. These tests aim to prevent deterioration in soil quality due to waste contaminants, which can lead to biological, chemical, and radioactivity contamination. Some of these contaminants include leachate, incinerator ash, and WWTP sludge. After the test is completed, the third party will provide the hospital with a certificate of soil testing results.

## 4. Food Health

The hospital strives to maintain food health by always supervising. Supervision is carried out by environmental health officers and officers related to hospital food health. Regarding food health carried out by the hospital, this was explained by informant three, who is a food health operator:

*"For food health, laboratory testing is the same as the 3rd party LPKL Tirtawening as well, as well as water health."*

From the results of the analysis for food health, the hospital collaborates with third parties, the form of food testing is in the form of food tests for patients, and the test results are in the form of certificates that third parties will give after completion of testing.

## 5. Sanitation Facilities & Buildings

In the Minister of Health Regulation number 7 of 2019, the health of hospital facilities & buildings includes building construction, hospital noise, lighting, and hospital room sanitation facilities. Related health advice & building explained by Informant 1 and Informant 3:

*"The operator every day ensures that the nutritional installation is clean, the facilities and buildings, basically check all the facilities"*

*and buildings here are clean, which is definitely the cleanliness of the building, the same as the cleanliness of the toilets as well, the yard. The name is IKL (Environmental Health Inspection) the form can be seen there at the Ministry of Health. Actually, it is not valid, but the new one does not have a form, so we still follow the form, the form in Permenkes number 7 of 2019, that's the form for the IKL huh."*

This was also revealed by Informant 3 as an environmental health staff in the food health and facilities & buildings health section:

*"For facilities and buildings, every day we monitor the cleanliness of the environment starting from inside the building to the yard, there continues to be the cleanliness of toilets as well, monitoring from the top floor to the bottom of the facilities and infrastructure, fear of damage or not in the room."*

Based on the results of the analysis above, the hospital conducts facilities & building health to check the cleanliness of all hospital buildings, the availability of hospital facilities and infrastructure, and guidelines for the health of hospital facilities & buildings carried out by operators referring to Minister of Health Regulation number 7 of 2019 concerning hospital environmental health. The hospital also collaborates to check the health of facilities and buildings, and the results are in the form of certificates.

## 6. Waste & Radiation Pollution Safety

The healthcare industry sector in Indonesia is experiencing rapid development, causing an increase in the amount of waste produced. These wastes come from hospital operational activities and require special treatment because they contain B3 waste. XYZ Hospital, in this case has managed its waste, be it domestic waste or B3 waste. This was also revealed by informant 1 as Head of Environmental Health:

*"Regarding the waste generated as a result of the operational activities of this hospital, the waste is divided into 2 decks there is liquid waste solid waste. For liquid waste, it usually comes from all wastewater from all operational activities in the hospital. Then for, domestic waste comes from nutrition installations and offices."*

Furthermore, the researcher asked about B3 waste.

*"For B3, waste comes from medical activities consisting of infectious waste, pathology, sharps, pharmaceuticals etc."*

### 1) Solid Waste

According to information from the Head of Environmental Health (informant 1), XYZ Hospital produces two types of waste, namely liquid waste and solid waste. Solid waste is divided into two categories, namely domestic waste and B3 waste, so handling it requires a different approach.

*"If solid waste is controlled by operators at the polling station, the control is carried out to ensure the fear of nurses or CS entering medical waste into the domestic, so just look at the trash can, afraid that someone will join, even though the trash can has been separated, we still check again"*

Statement of informant 2 as waste safety operator:

*"My field is only, but I collaborate with the Cleaning Service (CS) department there are about 40 people, to check the results of weighing domestic waste with B3, you have to go to the field so that it is weighed first, before being transported by the 3rd party, First let me know the total amount per day how much, the total per month is how much, only sometimes I forget to take notes, so like there is a difference."*

This is in accordance with the statement of informant 5 as CS:

*"Every day it always helps the cleanliness of kesling, medical waste, domestic waste, from everything and there are special sections, if I am part of the yard, there are those on the 1st, 2nd, 3rd or 4th floors, all divided depending on the coordinator, if in total there are around 42 CS people."*

Furthermore, informant 2 invited researchers to see firsthand the existence of Temporary Storage Areas (TPS) in hospitals.

*"This is B3 Here, domestic there, now this is the first time to enter; there is a direct scale, so let it make it easier for CS to directly calculate the weight of the garbage transported, then record each weight."*

At the TPS, researchers see many reports recording the weight of each waste that has been provided (supporting documents, evidence, documentation).

*"After being kilomed and recorded, we enter here (while pointing to one room), this is specifically for medical waste. Kalu is for domestic ones."*

The hospital has carried out separation and temporary storage at the polling station. Inside the TPS, each waste is separated according to its type. Furthermore, for the transportation of solid waste, XYZ Hospital collaborates with third parties. This is as stated by Informant 1:

*"Now for the transportation and destruction of domestic solid waste, we cooperate with DLH (Environmental Office) XYZ city, usually 2 times a month. If B3 solid waste is the same PT JASA MEDVEST one week 3 times (Monday, Wednesday, Friday)"*

This is in accordance with the statement of Informant 2:

*"We collaborate with 3 different companies, (1) PT JASA MEDIVEST cooperation for the transportation of B3 Solid Waste, (2) UPT Cleanliness Kab. XYZ for domestic solid waste, (3) LPKL Tirtawening lab checking for liquid waste and water"*

Based on the analysis results, XYZ Hospital has taken steps to secure its waste management, including separating waste bins and cooperating with third parties. In waste TPS, grouping by type is a priority.

XYZ Hospital implements waste separation in three stages. First, during the initial disposal, a particular trash can has been provided according to the type of waste. Second, the waste is separated again using plastic bags that match the type. Finally, at TPS, waste is also divided by type to ensure better waste management and by applicable regulations. This was also revealed by Informant 2:

*"The separation at the beginning of the disposal basin has also been separated, yes, then wrapped in plastic is also separated again."*

According to the regulations of the Ministry of Health, medical waste in the category of infectious, pathological, sharp objects can be stored for up to 7 days; in this case, XYZ Hospital collaborates in terms of transporting medical waste one week three times, namely Monday, Wednesday and Friday. However, for domestic waste, transportation is carried out by looking at whether there is much waste discharge. It is in line with the statement of Informant 3:

*"It depends on the waste discharge, but if the special schedule from the UPT transportation is twice a month, it is only right in the field depending on the full discharge too, sometimes three weeks just full, sometimes once every one month, sometimes once a month two times depending on many activities or not in the office."*

## 2). Liquid Waste

XYZ Hospital already has a WWTP (Wastewater Treatment Plant), whose function is to treat liquid waste so that it is not harmful to the surrounding environment. The WWTP owned by the hospital is WWTP, which in operation is known as a biofilter that utilizes aerobic and anaerobic decomposing bacteria.

Informant 3 showed the liquid waste management site, which turned out to be adjacent to the TPS. Further, informant 3 explained the treatment of liquid waste:

*"Now this is (1) water that has not been managed inlet or equalization tub, (2) then bacteria are given to destroy bacteria, the bacteria are dripped per second like an infusion system, (3) well this is also the same way it works so there are two times aerobic treatment. (4) then the water is channeled here sedimentation (5) disinfection tub, (6) the last flow here so the results are clear, this is in the last tub in which there is fish or we often call it an indicator tub, if the fish is*

*still alive it means the water is safe to throw into the river, filter before being thrown into the river we do laboratory tests again with the 3rd party"*

This is consistent with Informant 1's statement:

*"Yes, there are us every month of LPKL Tirtawening High School cooperation. The results will be in the form of certificates and must be accredited."*

The hospital has also collaborated with third parties regarding liquid waste testing. The test results will later be provided by a third party in the form of a certificate.

Figure 1. WWTP Management



Waste treatment begins with the collection of liquid waste from all wastewater collected in the waste basin, then flows into the equalization basin to control fluctuations in waste streams (in quantity and quality) and make the waste concentration homogeneous. The next process is water flowing into the aerobic bath 1 to be given bacteria, bacteria are dripped per second like an input system, the process of giving bacteria is carried out twice. The next process is flowed into the sedimentation basin to precipitate particles that have a higher density than water. Then it is flowed into the disinfection basin and finally, the control tub before finally being flowed into the river. In this control basin, fish are used as an indicator of water safety; if the fish does not die then the water can be flowed into the river, although before being drained from the indicator basin, the hospital conducts laboratory testing again to third parties so that the water flowed is really awake and protected from harmful bacteria.

#### 7. Control of Vectors and Disease Carriers

The hospital controls vectors and disease-carrying animals by collaborating with third parties, namely controlling rat pests and fogging. From the results of the analysis, the hospital has carried out health implementation based on the Indonesian Minister of Health Number 7 of 2019 concerning Hospital Environmental Health Article 3 paragraph (1) concerning the implementation of hospital environmental health through health, security and control. The following is the operational process of hospital activities in carrying out health, security and control that researchers get from the results of the analysis.

### 4.2 APPLICATION OF ENVIRONMENTAL ACCOUNTING AT XYZ HOSPITAL

#### 4.2.1 Identify Environmental Costs

XYZ Hospital has identified environmental costs through RKA, which is part of the annual budget prepared by the hospital. In the RKA, environment-related

costs are included in environmental health service management activities. The proposed budget is IDR 900,000,000 for 2022. However, in the Budget Realization Report (LRA), there was a change to Rp824,803,989, while the amount of budget realization was Rp758,796,568.

XYZ Hospital uses two budgeting systems, namely Change of Money (GU) and Direct Payment (LS). From the amount of realization above, the budget with the GU system is Rp236,110,368, while for LS it is Rp522,686,200. By identifying environmental costs regularly every year, the Hospital can have more accurate information about the social and environmental impacts of its operations. From budget reports and budget realization that reached 92% of the total budget provided, hospitals can take appropriate actions to reduce negative impacts and improve sustainable practices in the provision of health services.

#### 4.2.2 Environmental Cost Recognition & Measurement

Recognition relates to transactions that occur recorded or not into the recording system, so that these transactions affect the financial statements of a corporate entity. Recognition is realized by recording a sum of money into financial statement items that are affected by related events or events. XYZ Hospital recognizes every transaction that occurs using an accrual basis.

#### 4.2.3 Presentation & Disclosure of Environmental Costs

Presentation relates to how cost information is presented in the financial statements. For the presentation of the environmental costs of the hospital revealed by Informant 4:

*"If the presentation in the financial statements, everything is totaled, and it goes to the inventory and service expense account, directly how much is the total, how many ceiling activities, how much realization."*

XYZ Hospital does not present and disclose environmental costs specifically in the financial statements. Environmental costs are included in the inventory expense and service expense accounts. Inventory expenses amounted to Rp8,371,190,936, and service expenses amounted to Rp17,845,742,545.

### 4.3 AMANAH METAPHORS' PERSPECTIVE ON EXTERNALITY HANDLING IN ENVIRONMENTAL ACCOUNTING AT XYZ HOSPITAL

#### 4.3.1 Trustee

In the context of the metaphor of Trust, the primary Trustee is God as the Creator of the Universe. Man is considered as God's representative on earth (*khalifatullah fil ardh*) with the duty and responsibility to manage the environment wisely. In the hospital, which is a government hospital, the government acts as a secondary trustee after God as the Creator of the Universe. In this case, environmental accounting is used as a tool to record and be responsible for the environmental impact of human activities in accordance

with God's mandate, as well as to prove that the hospital has complied with government regulations.

XYZ Regional Hospital has implemented environmental accounting by recording environmental costs previously budgeted in the Budget Work Plan (RKA) and adjusted to the Budget Implementation Document (DPA). Budgeting in government hospitals involves several important steps. The hospital management team will prepare an RKA that includes an activity plan and allocation of funds for a certain period, including medical services, infrastructure, human resources, medicines, and others. Once prepared, the RKA is evaluated and validated by a top-level management team or supervisory agency to ensure conformity with established needs and policies. Furthermore, a Budget Implementation Document (DPA) was prepared which contains details of the allocation of funds for each activity in the RKA, including the origin and limits on the use of funds according to regulations. Once the DPA is drafted, the budget is submitted for approval by the agency or authorities.

Environmental costs are further reported in the Budget Realisation Report (LRA) and included in the Environmental Health Service Management account. In the account, there are cost details that include other materials expenditure accounts, calibration service expenditures, wastewater management expenditures, environmental consulting service expenditures, and fence capital expenditures. In the LRA, budget realization in 2022 reached 92.0%. However, hospitals do not present and disclose environmental costs specifically, because environmental costs are still combined with inventory and service burdens.

#### 4.3.2 Trustees

The metaphorical concept of *amanah* states that the recipient of the Trust is a human being, who is considered as God's representative on earth (*khalifatullah fil ardh*). They have the duty and responsibility to manage the environment wisely. Within the government hospital system, these trustees particularly include hospital leaders and managers who are responsible for the wise management and utilization of hospital resources. As a trustee, XYZ Hospital has the responsibility to manage the hospital with integrity, transparency, and comply with applicable rules and regulations.

In this context, XYZ Hospital has complied with the Regulation of the Minister of Health of the Republic of Indonesia Number 7 of 2019 concerning Hospital Environmental Health. This regulation regulates various aspects, including the implementation of hospital environmental health through the health of water, air, soil, food, facilities, buildings, waste security, radiation, and control of vectors and disease-carrying animals.

#### 4.3.3 Trust

By acknowledging that God is a universal perspective, trustees will consciously know the duty of Trust they must fulfill. At XYZ Hospital, competency tests are carried out for each operator, especially in the

Environmental Health (Kesling) section. Competency tests in the Environmental Health section of hospitals play an important role in ensuring that staff or workforce operating in the hospital environment have adequate knowledge and skills to perform their duties well, especially in environmental aspects.

By implementing competency tests, the Environmental Health Department of the hospital can ensure that hospital staff have the necessary understanding and skills to carry out their duties effectively to contribute to the success of hospital operations and maintain a safe environment.

In addition, XYZ Hospital has also provided a Wastewater Treatment Plant (WWTP). Untreated liquid waste can contain bacteria, viruses, and harmful chemicals that can potentially cause disease in humans. Using WWTP can minimize the risk of spreading diseases through wastewater so that public health is maintained.

XYZ Hospital collaborates with third parties to prove their responsibility in managing and utilizing resources. This collaboration includes testing water, air, soil, and food health by LPKL Tirtawening, transportation of domestic solid waste by UPT Cleanliness Office of XYZ Regency, and transportation of Hazardous and Toxic Material (B3) waste by PT Medivest.

## 5. CONCLUSION

XYZ Hospital has fulfilled its social and environmental responsibilities through the Environmental Health Subdivision, covering seven main activities: water, air, soil, food, facilities & buildings, waste & radiation security, and vector control. The Hospital collaborates with third parties, including DLH, PT Jasa Medivest, UPT Cleanliness Kab. XYZ, and LPKL Tirtawening, in solid and liquid waste management. XYZ Regional Hospital has carried out an accounting process for environmental costs in the Budget Realization Report (LRA) as a form of responsibility to the Trustee. However, its financial statements still incorporate environmental costs into the burden of inventory and services without separate disclosure. XYZ Hospital is a regional hospital. As a recipient of the mandate, the hospital has complied with the Minister of Health Regulation Number 7 of 2019 concerning Hospital Environmental Health. In addition, XYZ Hospital also conducts competency tests for operators in the Environmental Health sub-division (Kesling) to ensure the implementation of responsible duties (*amanah*).

This research is inseparable from various limitations. First, the main challenge is limited access to data and information because some data is confidential and inaccessible to the public. Second, it should be recognized that there are no specific regulations governing environmental accounting, given the complexity of various types of costs and impacts arising from hospital operations. Finally, limited time and resources are small factors for researchers to conduct in-depth analysis, analyze financial data, and compare research results well.



The results of research and analysis produced the following suggestions: First, the industry advised to separate and present environmental costs transparently in financial statements to facilitate understanding of environmental impacts by related parties, as well as apply trustful behavior in all operational activities, including waste management and accounting, with awareness of responsibility towards Allah SWT and other living beings. Second, academics and researchers can conduct case studies on hospitals of diverse types and sizes for a deeper understanding of environmental accounting in hospitals, seek alternative data access, explore the regulatory implications of environmental accounting, and allocate resources wisely for more in-depth analysis.

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