

# Environmental Accounting Analysis Of The Increase Of Raw Materials In The Government Sector

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## Abstract

The main objective of this study is to examine how rising raw material costs hinder government efforts to achieve sustainable development and protect the environment point to help governments assess and manage responsibly the impact of rising raw material costs point this article examines the importance of environmental accounting as a strategic basis for this research using the Systematic Literature Review (SLR) methodology. Using information presented from relevant journals between 2013 and 2024, the SLR technique was used to identify platforms and approaches to information system development in Indonesia. And the SLR method for determining, examining, assessing and interpreting all the currently available literature on how environmental accounting helps the government sector manage the impact of rising raw material prices on environmental sustainability in light of related and interesting questions. The phenomenon of systematic review and journal identification can be completed using the SLR technique with each stage of the process in accordance with predetermined guidelines. The findings of this study show that environmental accounting is a method for determining, evaluating and recording the advantages and disadvantages of various government initiatives towards the environment. Successful policies and measures to reduce the adverse impact on the environment due to rising raw material costs require prompt consideration of this information.

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## 1. Introduction

Environmental pollution is a result of the use of bookkeeping with rather ancient equipment during the Pacioli era in Italy, but since the start of the industrial revolution, society has developed advanced technology that has the potential to damage the environment. (Irawan & Halim 1998). The relationship between everyday amounts of money and related issues is not great although Adam Smith explained that "invisible hands" would help make the best use of these amounts of money in improving welfare. The point of complexity arises from combining environmental pollution rules and bookkeeping.

One of the countries that experiences the most negative impacts of environmental degradation is Indonesia, where conditions are getting worse along with the development of the government, even though industrial expansion is good for the economy, it is also detrimental to the environment. Accountants have always been environmentally conscious. The idea of environmental awareness through gained attention in Europe in the 1970s as has been shown. The main objective of this study is to examine how rising costs of raw materials hinder government efforts to achieve sustainable development and protect the environment. Even though it has become the main engine of economic expansion, the industrial sector has a negative impact on the environment, pollution of natural resources is the result of depletion of natural resources due to changes in structure and conditions caused by industrial activities.

According to Indrayani (2019), investors, consumers and the government must pay attention to environmental challenges which are increasing in Indonesia. The current economic development point is mostly driven by the industrial sector. Positive industrial growth point (government sector) is defined as the speed of job creation because of this. This will of course encourage an increase in overall economic growth. On the contrary, the impact is negative occurs and worsens environmental sustainability, as occurs when certain manufacturers fail to prevent environmental sustainability by building point-manufactured coral reefs without following the correct protocols for extracting ecologically harmful substances from the sea.

Indonesia's position in the 2022 environmental performance index (EPI) is worse than other countries. In terms of environmental performance, Indonesia's ranking is worse than other countries. The Yale Center for Environmental Law & Policy and the International Earth Science Information Network Center, two of the world's leading research organizations, released an annual report highlighting three key pillars of the Earth Institute: ecosystem vitality, resilience to climate change, and environmental health. The Earth Institute conducts research across 180 country.

Before being scaled from 0 to 100 the data above is sorted based on current indications. Furthermore, the emergency situation index for a country in 2022 will increase as regionally, Indonesia is ranked 28th out of 1000 countries and 64th out of 180 countries; has the 9th highest level of fertilizer types including urea balsam, waste management, release of chemicals, and greenhouse gases that support ecosystems and human health (Anggraeni & Sisdiyanto, 2024).

Evaluation arrangements related to the environment in the framework of financial accounting and reporting are included in environmental accounting, research points and the use of environmental financial and physical data with the Environmental Management Accounting (EMA) paradigm (Sari & Gantino, 2022). According to Herlinda (2024) environmental accounting is a policy that considers environmental costs in accounting procedures for a change or government organization, a point used to determine, evaluate and record the advantages and disadvantages of various government programs for the environment (Herlinda, 2024), this idea emerged when society becomes more aware of the influence of economic activities on the environment. Identifying and communicating environmental costs to stakeholders is the main function of environmental accounting (Sari & Gantino, 2022). Assessing environmental costs and environmental consequences related to environmental use can also be assisted by environmental accounting (Viglia et al., 2013; 2005)

The increasing cost of raw materials is a problem for the public sector and if not controlled properly can endanger environmental sustainability (Nayseo, 2023). Because it can affect a company's ability to succeed, environmental accounting is a complicated subject (Sari & Gantio, 2022). The accounting industry contributes to environmental initiatives in this case because the increasing influence of business on environmental and water quality issues is carried out by recording accounts related to environmental costs. Accounts related to environmental expenditure are the main emphasis of this kind of accounting system. -sometimes referred to as environmentally friendly accounting or environmental accounting. According to Seosanto (2022). The idea of sustainable development places a strong emphasis on incorporating social, economic, and environmental factors into decision-making processes (Gold, 2015). According to Herath (2005) and Galychyn et al (2020) environmental accounting helps calculate environmental costs and impacts and formulate business strategies that maximize the trade-off between costs and Benefits within a sustainability framework to address energy use, energy waste, and carbon emissions can be achieved through environmental awareness (Machete et al., 2016).

## 2. Methods

What is meant by the "systematic literature review" (SLR) approach refers to the research methodology used in this research. A literature review is a strategy used in research to discover, assess, and analyze all relevant research findings regarding a particular research question, theme, or phenomenon of interest. SLR research is conducted with relevant specific research questions

in mind and is conducted for a number of reasons such as finding, reviewing, assessing, and interpreting all existing research regarding the topic area of an interesting phenomenon. An SLR is often required to create a research plan, as well as complete a research funding application and be included in a dissertation or thesis.

### **3. Results and Discussion**

#### **The role of Environmental accounting in managing impact on raw material prices**

Prevention, mitigation, or avoidance of environmental consequences to express business actions and commitments through the inclusion of environmental costs in business or government agency accounting methods is known as environmental accounting (Maricar & Priyawan, 1.1.). Activities that reduce environmental quality incur environmental costs which are consequences that have financial and non-financial aspects and must be paid for (Endiana & Suryandari, 2021).

(Lubis et al., 1.1.) defines environmental accounting as the process of calculating, determining and disclosing costs associated with business operations. Stechemesser and Guenther (2012) differentiate between environmental financial accounting and environmental management accounting based on the type of use. Environmental costs can provide information about how environmental costs are distributed, which is useful for improving and managing environmental performance, claim Hansen and Mowen (2015).

#### **The role of environmental accounting**

According to (Fadelsyah et al., n.1.) there are five phases in which accountants assist management in solving environmental problems:

1. An accounting system to link environmental issues with other issues, such as costs related to environmental consequences, legal costs, sanitation costs, and other expenses.
2. It is important to identify the weaknesses of the current accounting system, such as difficulties in calculating investments that are unable to overcome problems. environment adequately.
3. Security systems must be more aware and sensitive to the challenges of an ever-changing environment.
4. Financial reporting to external parties when the scope of business social responsibility initiatives is being adjusted.
5. The need for new advances in accounting information systems, such as considering

Accounting system and environmental issues can be impacted by increases in raw material prices, according to one of the accounting functions. It is possible to change accounting systems to recognize, root and control how business operations affect the environment (Behhington, J. & Gry, R. (2001), 11). This can help the business world use book materials more wisely, minimize negative impacts on the environment and reduce rising material costs. As stated by Bebbington and Gray (2001, n.5.) Long-term environmental sustainability and increased corporate profitability can also be supported by greater responsibility, transparency, and compliance with environmental laws (Epstein, M., & Roy, M. (2001), 11.3. and Promoting Sustainable Pitun Using information about how business operations affect the environment can help decision makers utilize raw resources more wisely.

#### **The impact of increasing raw material prices on environmental sustainability in the government sector**

One of the main components in reducing the impact of rising raw material prices is environmental sustainability, which is based on a very strategic government sector approach, especially in encouraging national economic growth. The use of energy, raw materials and air at the beginning of the manufacturing process causes environmental problems which ultimately lead to a decrease in quality and an increase in the number of rejected goods. Waste products, which are often called liquid waste, are the final products of the production process that cannot be reused and can harm the environment. (Indrayani, forthcoming)

Both directly and indirectly, the government sector provides sufficient evidence of this. For investors, consumers, and government officials, environmental problems are also becoming increasingly serious. These individuals have the ability to overcome the challenges of raw material procurement and production processes, which are hampered by the emergence of environmental problems such as air pollution, soil erosion, and ecosystem collapse. It is also said that worsening environmental conditions lead to an increase in raw material prices.

The following table is a list of case studies regarding environmental and social challenges that have a negative impact on a company's ability to run a business.

## ENVIRONMENTAL ACCOUNTING CASE STUDY

**Table 1.** Examples of environmental and social problems in the business world in Indonesia

No	Case examples	Location	Role of Environmental Accounting	Social Problems
1.	PT. Inti Porpes, Indorayon North Sumatra Province		Manage production and supply chain costs, considering that Maspion is a manufacturer of household equipment. Accounting for household costs. and inventory management is important for operational efficiency.	The operation was stopped because of environmental problems and social problems around the government sector
2.	PT. Exon Mobil	Lhoseuma ve Acch	Calculation of income from telecommunications services, including the application of PSAK 72 standards to income from contracts with customers. Also important in managing telecommunications infrastructure assets.	Production activities were stopped due to economic stability factors.
4.	PT. Maspion Indonesia	Riau Province	Accounting for railway infrastructure equipment and calculating depreciation. Calculation of the costs of organizing train traffic is also important.	On the issue of labor demonstrations and
3.	PT. Ajinomoto Indonesia	DKI Jakarta	regarding accounting for business restructuring costs, related to employment termination costs and product facilities.	Withdrawa distribution dan stopping the production of halal problems by MUI activities due to certification.
5.	Several paper companies in Riau	Riau Province	Accounting for foreign exchange transactions, exchange rate management and financial reporting according to international standards (IFRS).	Local communities process industrial waste and environmental pollution.
6.	PT. Telkom Indonesia	Central Java Province and DIY	Accounting for cigarette production costs, managing tobacco products and calculating excise and reporting.	Rejection of PT Telkom's kafy wan certificate regarding the sale of Division IV to PT Indosat.

7. PT. BCA	DKI Jakarta	Banks like BCA have large office buildings and a fleet of vehicles in operation. Environmental accounting helps measure carbon dioxide emissions from energy use and traffic.	Rejection of employee certificates for investing in BCA shares.
8. PT. Kereta Api Indonesia	DKI Jakarta	KAI is a large energy consumer. environment helps measure energy consumption and find ways to improve efficiency.	Rejection of certificate of return of old board of directors. Because he is considered responsible for several cases Answer above train accident that occurred in Indonesia.
9. Bank Internasional	DKI Jakarta	International banks are often involved in financing projects that can have environmental impacts. Accounting helps identify environments related environments. and risk.	Employee demands for increase salaries, wages and worker welfare.
10. PT. Gudang Garam	Kediri, Central Java	Industry requires a lot of water and energy. Environmental accounting helps measure the consumption of these power sources and identify opportunities to improve efficiency.	There was a mass strike because employees demanded improvements in wages and worker welfare.

Providing enlightenment to stakeholders regarding environmental costs is the main/important role of environmental accounting. By disclosing environmental costs, stakeholders can be encouraged to find strategies to minimize or eliminate environmental costs in order to improve environmental quality. Financial environmental accounting, according to Gale and Peter (2001:121), places a strong emphasis on the analysis and reporting of costs and liabilities associated with environmental issues

To manage the impact of rising raw material costs on environmental sustainability in the public sector, environmental accounting plays an important role. As stated by (Siswanto & Amira, 2022). A method called environmental accounting is used to track and manage environmental costs associated with business operations. Accountancy environment can help in controlling environmental costs associated with government operations. including waste management, energy consumption, and natural resource management.

### **Managing the impact of increasing raw material prices**

Environmental accounting can be used to control how rising raw material costs affect environmental sustainability.

#### **a. Calculating Environmental Costs**

Measuring the environmental costs of government operations can be assisted by environmental accounting. By doing this, the government can efficiently identify and control emerging environmental costs (Sari & Gantino, 2022).

#### **b. Make the best use of resources**

Optimizing the use of natural resources is possible with the use of environmental accounting. The government can cut environmental costs and resources in the environment are vulnerable to degradation and cannot be returned to their original condition. Those who use, manipulate and manage natural resources will be more careful for these two reasons.

Incorporating environmental factors into sustainable development plans is becoming increasingly important considering the current development of environmentally friendly accounting in Indonesia. For example, the Indonesian government has created an accounting framework or policy under the Environmental Protection System, which is often known as environmental accounting, to detect, safeguard and preserve the environment from economic

activities. Support is provided in detecting environmental characteristics and minimizing their impact when computational methods of financial transactions are used (Nayseo et al., 11., p. 2023)

Energy use, energy waste, and carbon emissions can all be reduced by using environmental awareness (Machete et al., Hongoro, Nhamo, & Mearns, 2016). Environmental accounting and energy savings can be used to combine energy consumption, energy prices, and carbon emissions (Machete et al., 2016). Understanding the environment can help identify which renewable energy sources will most or least reduce energy use in company operations. For example, because solar energy is more efficient than the two forms of energy, business operations in the hotel sector that use solar energy or solar energy can be replaced with solar energy (Machete et al., 2016).

Energy prices and carbon emissions can be reduced by replacing energy features that encourage high energy use with reduced energy characteristics, and vice versa (Machete et al., 2016). The costs associated with energy acquisition are directly correlated with the level of energy required, and vice versa (Machete et al., 2016). High levels of energy consumption will have an impact on reducing carbon emissions during energy consumption (Machete et al., 2016). In addition to reducing energy waste and increasing the return on investment in energy savings in the form of energy volume, energy prices, and carbon emissions, environmental accounting techniques in energy characterization and selection can also support sustainable development (Machete et al., 2016).

Assessing environmental costs and environmental consequences related to environmental use can also be helped by environmental accounting (Viglia et al., 2013; Herath, 2005). To optimize the ratio of expenditure to benefits within a sustainable framework, environmental accounting can also be used in the development of company plans and policies (Galychyn et al., 2020)

## 4. Conclusion

One of the countries that has the worst perception of environmental degradation is Indonesia, and this perception is increasingly growing along with the development of the government sector. Although industrial expansion improves the economy, it also has a negative impact on the environment. Accountants are concerned about the environment. Therefore. Environmental accounting can be seen as a method for determining, evaluating, and record the advantages and disadvantages of various government efforts on the environment. Developing successful policies and measures to reduce the adverse environmental impact of rising raw material costs requires careful consideration of this information. One of the problems faced by the public sector recently is the increase in raw material prices. Environmental sustainability may be compromised due to rising prices of raw materials, especially if businesses do not have appropriate cost management plans. Therefore, environmental accounting plays an important role in helping the government sector manage the impact of rising raw material prices on environmental sustainability. It can also be used to measure environmental costs, maximize resource use, increase the availability of environmental accounting resources, and communicate environmental impacts. Sharing Impact on the Environment. There is possibilities and problems in this period of rising raw material prices. Here are some things to think about. The topics of raw material price fluctuations, environmental management accounting, and encouraging sustainable decision making are all discussed. Having knowledge of the impact of a company's operations on the environment can help you make wiser judgments, when it comes to the use of basic resources.

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