Analysis of Green Accounting Implementation Based on University Social Responsibility
(Study at Nusa Cendana University Kupang)

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Abstract --- The aim of this research was to acknowledge how the implementation of green accounting based on university social responsibility (USR) in Nusa Cendana University, Kupang. Population used in this research was the entire academic community in UNDANA. Data collection techniques in this study were through the distribution of questionnaires. The design of this research was quantitative descriptive research. The sampling technique used was purposive sampling. In the questionnaire presents the elements of statements about 1) environmental awareness in the implementation of green accounting based on university social responsibility at UNDANA, 2) environmental involvement in the implementation of green accounting based on university social responsibility at UNDANA, 3) environmental reports on implementation of green accounting based on university social responsibility at UNDANA, and 4) environmental audits on the implementation of university social responsibility green accounting based at Undana. The results obtained from this study were 1) UNDANA already has the support of human resources and economic resources related to environmental issues, 2) UNDANA has a master plan of research and community service related to environmental issues, and 3) The leader of university's philosophy about the environment life.

Keywords: green accounting, university social responsibility, environmental awareness, environmental involvement, environmental reports, environmental audit

I. INTRODUCTION

Issues related to environmental damage are no longer new issues. Until now, almost in all countries began to pay great attention to the issue of environmental damage, for example the emergence of water pollution, soil, air and the existence of social inequalities in the environment. All parties began to contribute ideas related in order to save the environment. One of them is the emergence of the concept of environmental accounting. Environmental accounting known as the Green Accounting Concept has actually begun to develop since the 1970s in Europe, followed by the development of studies related to Green Accounting in the 1980s ([1]; [2]). In Indonesia, the basics of policy regarding the environment began since the enactment of the Environmental Law in 1982. In the field of Accounting, it can be seen in PSAK No.1 and PSAK No.57. An explanation of the presentation of environmental impacts in PSAK No. 1 of 2009 revision paragraph 12 is as follows:

Entities can also present, apart from financial statements, reports on the environment and value added statements, especially for industries where environmental factors play an important role and for industries that consider employees as the user group that reports an important role. The additional report is outside the scope of the Financial Accounting Standards.

Meanwhile, the main objective of environmental accounting is to comply with environmental protection legislation to find efficiencies that reduce environmental impacts and costs[3]. Related to environmental issues, it lies in the value of conserving the environment.

Environmental accounting based on Corporate Social Responsibility (CSR) has been widely implemented by large companies as a form of corporate responsibility for environmental impacts on business activities carried out. The form of CSR in higher education is known as University Social Responsibility or abbreviated as USR. University Social Responsibilities (USR), basically is an ethical policy that affects the quality of the performance of the college community which includes students,
managers, teachers and all college employees through management who is responsible for the educational, cognitive, employment and environmental impacts produced by the college high through an interactive dialogue with the community in order to produce sustainable human development[4].

Universities as entities that play a role in the development of educational innovation certainly have a responsibility to its stakeholders, namely students, employees, lecturers and the community, the responsibility of the universities is not only seen from the competence and success of the universities in achieving awards in their fields, but the universities must also be responsible for environmental preservation where the universities stand. The universities’ environmental responsibility is not only judged on cleanliness but needs to be reviewed in terms of understanding, attention, care and from the accounting side of environmental reporting and auditing.

In the study of Teoh and Thong (1986) in[5] that an organization can be categorized as contributing to protecting the environment if it has concern for the environment (Environmental awareness) itself, which is then followed by the organization's involvement in environmental problems (Environmental Involvement). This needs to be followed by environmental reporting, especially organizational performance in overcoming the impact of organizational activities on the environment, which is then enhanced by environmental auditing (Environmental Auditing) to measure and evaluate organizational performance. With that in mind, the researchers raised the research "Analysis of Green Accounting Based on University Social Responsibility (Study at the University of Nusa Cendana)".

The University of Nusa Cendana (UNDANA) with the mission of "Creating UNDANA as a center of global excellence in the development of the archipelago and tourism" makes UNDANA not only focus on processes that produce knowledge and technology. UNDANA is also demanded to be able to solve real problems in society, such as poverty, employment, public services, politics, human rights, the environment, and so on. Therefore, UNDANA is required to be able to develop themselves based on their potential and capacity. In this connection, UNDANA has established the main scientific patterns of dryland agriculture, fisheries, marine and tourism as scientific excellence. The development of the main scientific pattern is in accordance with the existence of UNDANA in East Nusa Tenggara Province as an island province whose land area is dominated by dry land with natural conditions that have the potential for tourism development (UNDANA 2016-2020 Strategic Plan).

The phenomenon that exists is that most of the academic community does not have the awareness of the importance of environmental sustainability and cleanliness yet. It is proven by the fact that there are still many rubbish found scattered in almost all faculties at UNDANA. In addition, the lack of attention from UNDANA in disseminating the importance of environmental hygiene to the entire academic community. While the theoretical phenomenon in this study concerns green accounting. All UNDANA academics must have the understanding and the awareness to be able to apply the concept of green accounting. Green accounting implementation must be based on university social responsibility itself. In other words, all academics, from the Rector to UNDANA students, must be able to show behavior that always prioritizes the concept of green accounting as a form of environmental sustainability concern.

II. LITERATURE REVIEW
a. Green Accounting

Accounting is a science that is influenced and influences its environment. Along with the development of a period when environmental awareness began to get the attention of the community, the discourse of social accounting and environmental accounting emerged. Environmental accounting is the identification, measurement and allocation of environmental costs and the integration of costs into business decision making and communicating the results to the company's stockholders (Astuti, 2002 in [6]).

Reference [7] defined green accounting as: “Green accounting is one of the contemporary concepts in accounting that support the green movement in the company or organization by recognizing, quantifying, measuring and disclosing the contribution of the environment to the business process”. Green accounting describes efforts to incorporate environmental benefits and costs into economic decision making or a financial outcome of a business, Green Accounting describes efforts to incorporate environmental benefits and costs into economic decision making. Environmental accounting is connected with the environmental impact of a business, national green accounting seeks to achieve the same at the country-level.

According to [8] “Environmental accounting collects, analyzes, assesses, and prepares reports of both environmental and financial data with a view toward reducing environmental effect and costs. This form of accounting is central to many aspects of governmental policy as well. Consequently, environmental accounting has become a key aspect of green business and responsible economic development”. Meaning that green accounting collects, analyze, estimate, and prepare reports both environmental and financial data with the aim of
reducing environmental impacts and costs. This form of accounting focuses on several aspects of government policy as well as possible. Consequently, green accounting is an important aspect of green business concept and responsible economic development.

b. **Green Accounting with University Social Responsibility based**

In Indonesia there is no reference in accounting standards that requires universities to disclose social information relating to activities carried out specifically in the responsibility of higher education institutions for environmental impacts resulting from the activities carried out. Due to the absence of rules that govern the university will consider the amount of benefits and losses to be obtained before deciding whether to disclose the social information or not. Therefore, before disclosing social information, the tertiary institution will assess whether the action provides greater value than the loss. And it would be better and wise if the college not only concerned with internal interests, but also must prioritize the interests of other parties such as students, employees, lecturers and the community affected by the environmental and social impacts of higher education activities both directly and indirectly also must be considered and taken into account.

According to [9] and the research of [4], the stages for universities to apply Green Accounting with USR based are:

a. **Environmental awareness**

The first thing that universities do in their planning to implement Green Accounting with USR based is to build awareness and commitment on the importance of USR. In this variable, studied are conditions that cause respondents to pay attention to environmental problems.

b. **Environmental Involvement**

The application of Green Accounting USR-based which is carried out with a special team formed directly under the supervision of the designated university leaders and evaluates the implementation and measures the effectiveness of the application.

c. **Environmental Reporting**

Environmental reporting is needed for the decision making process as well as in the context of disclosure of material and relevant information about tertiary institutions. This variable is measured based on answers to the availability of the entity's environmental performance report.

d. **Environmental Auditing**

To ascertain whether the performance of the environmental conservation program carried out in an effective and efficient manner requires an environmental performance audit. The latter variable is measured based on answers to the availability of higher education environmental audit reports.

c. **Former Research and Target Achieved**

The focus of the former research proposed by the reference is related to the issue of Green Accounting. Research as a reference in this study are:

1. Implementation of Green Accounting with University Social Responsibility (USR) based in Institut Teknologi Sepuluh Nopember (ITS) Surabaya [10].

   **Research results:**
   1) The motivation of ITS to implement Green Accounting based on University Social Responsibility is a form of ITS concern for the current climate change problem. ITS makes programs that build a culture of environmental love for ITS academics, and
   2) Implementation of University Social Responsibility-based Green Accounting at the Ten November Institute of Technology (ITS) through the ECO Campus program and ECO-Campus Unit Performance Reporting in the implementation of University Social Responsibility-based Green Accounting is in the good category.


   **Research result:**
   Disclosure of environmental accounting in Indonesia to date is still voluntary, and there is no strict regulation so that there are still many business entities that have not made disclosure of environmental accounting properly. From the results of several studies indicate that companies with a larger size there is a tendency for better disclosure of environmental accounting, this is because the larger the size of the company, the demand for information transparency will be higher. Where the disclosure of environmental accounting reporting is actually important information for investors, because it can be seen a picture of the company's harmony in managing its environment so as to reduce the risks and costs that may arise from environmental damage.

3. Oversight of the Implementation of Green Accounting-based University Social Responsibility at UNS as well as comparative studies of Semarang City University [4].

   **Research result:**
   Responsibility for the environment in terms of probability is not accepted and partially accepted. While partially environmental awareness, environmental reporting, environmental audit are not accepted and probability is accepted.

III. RESEARCH METHOD

**a. Research Approaches and Methods**

The analytical tool used in this study descriptive analysis, SWOT analysis. SWOT analysis was used to identify the influence of internal factors, namely strengths and weaknesses, and external factors, namely opportunities and threats faced by
UNDANA in applying the concept of Green Accounting based on University Social Responsibility.

b. Research Location

This research was conducted at the Nusa Cendana University in Kupang as a sample region for this study. The reason we chose it was because Undana was the largest State University in NTT.

c. Technique Analysis

This study used a SWOT analysis technique to determine the strengths, weaknesses, opportunities and threats faced by UNDANA in terms of the perceptions of stakeholders regarding the application of the University Social Responsibility-based Green Accounting concept.

SWOT analysis as an abbreviation of Strengths, weaknesses, Opportunities and Threats in the environment facing the region. The SWOT phase assumes an effective strategy is to maximize strengths and opportunities and minimize weaknesses and threats. External factors and internal factors form the SWOT matrix.

The steps in this analysis will explain how the analysis was carried out, starting from the raw data available to the research results achieved. In this research, the steps of data analysis are carried out as follows:

1. Classifying data, which factors are strengths and weaknesses as internal factors of the organization, opportunities and threats as external factors of the organization. This classification will produce a SWOT information table.

2. Conducting a SWOT analysis, which is to compare with the weighting between Opportunities and Threats external factors with Strengths and Weakness internal factors

3. From the results of the analysis are then interpreted and developed into a selection strategy that allows to be implemented. The strategy chosen is usually the most possible (most positive) outcome with the smallest risk and threat.

Based on the above steps, the internal and external factors in the region are first identified. For factors that affect the internal territory by recording all the strengths and weaknesses. Strengths are recorded first and then a list of weaknesses. For external factors, the opportunity is registered first then the threat. To conduct an outline SWOT Analysis must be carried out through three stages, namely:

1. Data Collecting

In this stage it is not just an activity to collect data, but also an activity of classification and pre-analysis. Generally, the data will be categorized as internal and external data. For the purposes of analysis, External Factor Analysis Summary (EFAS) and Internal Factor Analysis Summary (IFAS) are usually used.

2. Weighting and preparation of IFAS and EFAS Matrix

3. SWOT Matrix Analysis

After successfully compiling the EFAS matrix, IFAS is the next step to do the analysis. For this purpose, a SWOT diagram will be used. The horizontal axis or X axis represents the IFAS factor and the vertical axis or Y axis represents the EFAS factor. The positive part of each X axis and Y axis will be occupied by Strength and Opportunity, while the negative portion of each X axis and Y axis will be occupied by Weaknesses and Threats.

The data found is then compiled and analyzed with a SWOT analysis, which explains the strengths, weaknesses, opportunities and threats faced by UNDANA in terms of stakeholders. Then formulated the right strategy for UNDANA in the future so that it can be accepted by all stakeholders and the community outside UNDANA.

IV. RESEARCH RESULT AND DISCUSSION

Based on the results of the distribution of questionnaires and Focus Group Discussion (FGD) conducted, it was found several strengths, weaknesses, opportunities and threats faced by UNDANA in implementing University Social Responsibility-based Green Accounting. The following are shown IFAS and EFAS SPI calculations:
<table>
<thead>
<tr>
<th>Internal Strategy Factor</th>
<th>Weight</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strength</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  Encouragement from oneself to environmental problems</td>
<td>0.14</td>
<td>4</td>
<td>0.56</td>
</tr>
<tr>
<td>2  The support of human resources (HR) and economic resources (SDE) related to environmental problems</td>
<td>0.13</td>
<td>4</td>
<td>0.52</td>
</tr>
<tr>
<td>3  Encouragement from students towards environmental problems</td>
<td>0.13</td>
<td>4</td>
<td>0.52</td>
</tr>
<tr>
<td>4  There is an environmental unit within the university</td>
<td>0.11</td>
<td>4</td>
<td>0.44</td>
</tr>
<tr>
<td>5  There is support for research and community service master plans related to environmental issues</td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
</tr>
<tr>
<td>6  The philosophy of the university leadership about the environment</td>
<td>0.08</td>
<td>3</td>
<td>0.24</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td><strong>0.66</strong></td>
<td><strong>4</strong></td>
<td><strong>2.49</strong></td>
</tr>
<tr>
<td><strong>Weakness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  There are still some academicians who are less concerned about environmental issues</td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
</tr>
<tr>
<td>2  The proportion of the budget that is still minimal for environmental problems</td>
<td>0.15</td>
<td>4</td>
<td>0.60</td>
</tr>
<tr>
<td>3  Research and community service related to the environment is still minimal</td>
<td>0.06</td>
<td>4</td>
<td>0.24</td>
</tr>
<tr>
<td>4  Lack of publication related to environmental issues</td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td><strong>0.34</strong></td>
<td><strong>3</strong></td>
<td><strong>1.23</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.00</strong></td>
<td><strong>7</strong></td>
<td><strong>3.72</strong></td>
</tr>
</tbody>
</table>

Source: Processed by researchers, 2019
Table 2

EFAS Calculation

<table>
<thead>
<tr>
<th>External Strategy Factors</th>
<th>Weight</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 There is encouragement from environmental institutions on environmental problems</td>
<td>0.18</td>
<td>4</td>
<td>0.72</td>
</tr>
<tr>
<td>2 There is encouragement from the environmental community towards environmental problems</td>
<td>0.15</td>
<td>4</td>
<td>0.60</td>
</tr>
<tr>
<td>3 There are appeals from other tertiary educational associations about the environment</td>
<td>0.12</td>
<td>3</td>
<td>0.36</td>
</tr>
<tr>
<td>4 There is support from the Provincial Government on environmental issues</td>
<td>0.10</td>
<td>3</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>0.55</td>
<td>1.98</td>
<td></td>
</tr>
</tbody>
</table>

| **Threat**                |        |        |       |
| 1 There are potential behaviors to damage the environment by parties outside UNDANA | 0.15   | 3      | 0.45  |
| The selfish attitude of outsiders who are not compliant with UNDANA's environmental-related regulations imposed at UNDANA | 0.13   | 3      | 0.39  |
| 3 Gas emissions from the inflow and exit of vehicles that have the potential to damage environmental levels at UNDANA | 0.17   | 4      | 0.68  |
| **Sub Total**             | 0.45   | 1.52   |       |

Source: Processed by researchers, 2019

From the analysis of the IFAS table above shows that the strength factor obtained a score of 2.49 and weakness of 1.23 with a score difference of (+) 1.26. The EFAS table shows that the probability factor scores 1.98 and the threat 1.52 with a score difference (+) 0.46. The results of identifying internal (IFAS) and external (EFAS) factors can be illustrated in the SWOT diagram below:

Graph 1. SWOT Diagram

Source: Processed by researchers, 2019

After determining internal factors, namely strengths and weaknesses and external factors of opportunities and threats, then determine strategies for environmental development within the scope of Undana that are analyzed using the SWOT matrix as follows:
### Table 3. SWOT Green Accounting Matrix

<table>
<thead>
<tr>
<th>IFAS</th>
<th>Strength (S)</th>
<th>Weakness (W)</th>
</tr>
</thead>
</table>
|      | 1. There is encouragement from oneself to environmental problems  
2. There is support for human resources (HR) and economic resources (SDE) related to environmental problems  
3. There is encouragement from students on environmental problems  
4. There is an environmental unit within the university  
5. There is support for research and community service master plans related to environmental issues  
6. The philosophy of the university leadership about the environment | 1. There are still some academics who are less concerned about environmental issues  
2. The proportion of the budget that is still minimal for environmental problems  
3. Research and community service related to the environment is still minimal  
4. Lack of publications related to environmental problems |
| EFAS | Opportunities (O) | SO Strategy | WO Strategy |
|      | 1. There is encouragement from environmental institutions on environmental problems  
2. There is encouragement from the environmental community towards environmental problems  
3. An appeal from other tertiary education associations regarding the environment  
4. There is support from the NTT Provincial Government on environmental issues | 1. The main impetus that comes from within oneself to realize environmental problems supported by environmental institutions and even support from the environmental community as well as an appeal from other tertiary associations about the environment so that the strategy formulated is exploring cooperation between Undana and institutions or communities and even other tertiary institutions concerned with the environment  
2. The existence of research and community service master plan support related to environmental issues will be stronger with the support of the NTT Provincial Government so that the strategy formulated is Undana to establish communication and coordination to explore cooperation with the NTT Provincial Government regarding environmental issues. | 1. Although there are some academicians who are still less concerned with environmental issues, encouragement from institutions / communities and even other tertiary associations can motivate the academic community in minimizing environmental-related problems. For that the strategy that can be formulated is the need for a memorandum of understanding (MOU) related to environmental issues between UNDANA and those who have concern for environmental issues.  
2. The proportion of the budget that is still minimal for environmental problems will affect the lack of research and service and even publication of research results related to environmental issues. Support from the NTT Provincial Government related to environmental issues can be realized with research and community service grants related to environmental issues. For this reason, the strategy that can be carried out is to build cooperation with the NTT Provincial Government in dealing with |
Threat (T)  
1. There are potential behaviors to damage the environment by outsiders  
2. The attitude of egoism from outsiders who are not compliant with environmental regulations that are applied in UNDANA  
3. Gas emissions from the inflow and exit of vehicles that have the potential to damage environmental levels in UNDANA  

ST Strategy  
1. The main impetus that comes from within oneself to realize environmental problems is one of the main factors to prevent potential behaviors that damage the environment from outside parties Undana so that the strategy that can be formulated is the making of rules / regulations by leaders who are strict towards the actors which damage the environment in the UNDANA region  
2. The philosophy of the leadership of the University of the environment becomes its own spirit in dealing with environmental issues including emissions of gas coming from the entry and exit of vehicles that have the potential to damage environmental levels in Undana so that the strategy that can be formulated is to establish cooperation with relevant technical agencies that carry out periodic testing of special gas emissions for vehicles that cross the UNDANA environmental area.  

WT Strategy  
1. The proportion of the budget that is still minimal for environmental problems can have an impact on the non-detection of potential destructive behavior, including the lack of detection of selfish attitudes from outsiders who are not compliant with environmental regulations. For this reason, the strategy that can be carried out is to increase the proportion of the budget for the environment and explore opportunities for cooperation with third parties who help the budget for the environment. To give a deterrent effect to the actors of environmental destruction, the strategy that can be formulated is to set rules / regulations that contain strict sanctions to the perpetrators of environmental destruction in the UNDANA region.  

Source: primer, processed by researchers, 2019  

1) SO Strategy  
In order to increase strength by taking advantage of opportunities that exist, the strategies that can be done are:  
a) exploring cooperation between UNDANA and other institutions or communities even universities that care about the environment  
b) UNDANA establishes communication and coordination to explore cooperation with the NTT Provincial Government regarding environmental issues.  
2) WO Strategy  
In order to take advantage of opportunities to overcome existing weaknesses, the strategies that can be carried out are:  
a) There is a need for a memorandum of understanding (MOU) related to environmental issues between UNDANA and parties who have concern for environmental issues  
b) Building cooperation with the NTT Provincial Government in handling environmental issues including research and community service grants and publication of research results  
3) ST Strategy  
To be able to utilize the power to avoid existing threats, the strategies that can be carried out are:  
4) Establishment of rules / regulations by leaders who are strict towards those who damage the environment in the UNDANA region  
5) Establish cooperation with relevant technical agencies that conduct periodic testing of special gas emissions for vehicles that cross the UNDANA environmental area  
6) WT Strategy  
In order to reduce weaknesses and avoid existing threats, a strategy that can be carried out is to formulate and establish rules / regulations that contain strict sanctions for perpetrators of environmental destruction in the UNDANA region.  

IV. CONCLUSIONS AND RECOMMENDATIONS  
Based on IFAS data and SWOT EFAS data analysis research, we can conclude namely:  
1. Internal factor data analysis results namely 3.72 obtained from the total score of strengths and weaknesses of the company. A value of 3.72 means that the value is high with a Likert scale assessment. The highest strength value is at the point of self-impulse towards environmental problems with a score of 0.56 or an item weight of 0.15, indicating that the budget available to deal with environmental problems is still less than expected. The highest weaknesses are found in the points of minimal budget
proportion for environmental problems with a score of 0.60 or an item weight of 0.10, indicating that there are also academicians who do not care about environmental problems.

1. The results of data analysis on the external factor value of 3.50 are obtained from the sum of the opportunity and threat factor ratings of the company. A value of 3.50 means that the value is high with a Likert scale assessment. The highest opportunity value at the point of encouragement from environmental institutions to environmental problems with a weight of 0.72 or weight of item 0.18 shows that other institutions outside UNDANA also have a very high interest in environmental issues at UNDANA. Whereas the highest threat value is found in gas emission points from vehicle inflows and potentially damaging environmental levels in the UNDANA area with a score of 0.68 or an item weight of 0.17, indicating that the emission gas has enough potential to damage the environment in the UNDANA region.

Recommendations

Based on IFAS and EFAS SWOT matrix, we recommend some strategies connected to the research, namely:

1. Special budget is needed in implementing Green Accounting based on University Social Responsibility

2. The need for socialization regarding the importance of green accounting among UNDANA academicians

REFERENCES