

# Relevance of the Implementation of Conservation Pillars on Operational Performance of Companies and Institutions

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**Abstract**-At this time, environmental changes are increasingly happening. Various natural and environmental problems come and go and certainly have an impact in the future. These problems make the world of work think about how to maintain the environment so that it remains sustainable because it cannot be denied that it will have an effect on operations in an agency. In the conservation pillar, it regulates paperless policy, waste management, clean energy and much more. By implementing this system, all operations will run in accordance with the principles of environmental ethics. The purpose of this study is to increase public awareness in protecting the environment and realize its influence on various fields of life including operations in an agency or company. The method used in this study is descriptive qualitative analysis method with secondary data to describe the phenomena that occur in the field in explaining the data to support this work. Based on the study conducted it can be concluded that the application of the pillar of conservation is very influential on the operational performance of a company or agency.

**Keywords**-Environment, Conservation Pillars, Operational System.

## I. INTRODUCTION

The number of internet users in Indonesia increased by 17 million over the year to January 2019, up 13% compared to the 2018 period, based on data released by Hoot suite Inc. As a result, the total internet users in the country currently reach 130 million, or 56% of the total population reaching 268.2 million. The report entitled The Global State of Digital in 2019 Report stated that active social media users in Indonesia this year also increased by 20 million (13%) to 150 million, or the same as the number of internet users. Meanwhile, those who use social media through mobile devices have reached 130 million, up 10 million (8.3%) over the past year. This opportunity must be utilized by all parties including the academic community. With the use of information technology this will have an impact in the form of more effective and efficient campus operations. Of course, the application of the conservation pillar by optimizing this technology can be a guide, example and role model for companies, agencies and institutions in an effort to improve effectiveness, efficiency, productivity by still paying attention to aspects of environmental sustainability.[1]



Fig. 1. The Global State of Digital of Indonesia in 2019

The term conservation in the Large Indonesian Language Dictionary (KBBI) is defined as regular maintenance and protection of something to prevent damage and destruction by preserving; preservation. When referring to this explanation, conservation can be interpreted as an effort to conserve resources that focus on natural resources.

Conservation is a complex and continuous process involves determining what is seen as inheritance, how it is maintained, how it is used, by whom, and for whom. The inheritance referred here does not only concern physical matters, but concerns all aspects of culture. Thus, conservation is not just a matter of care, preservation, and protection of nature, but also touches on the issue of heritage preservation.

As one of the universities in Central Java, in 2010, Universitas Negeri Semarang (UNNES) declared itself as a Conservation University, with seven pillars of conservation, namely: 1) biodiversity, 2) green architecture & internal transportation, 3) waste management, 4) paperless policy, 5) clean energy, 6) ethics, art and culture, and 7) conservation cadres.[2] The effort to realize UNNES into a Conservation University is actually inseparable from a philosophical foundation, that is, the universe in its entirety is a creation and gift from God Almighty, and thus nature has its own way of regulating the balance in itself. Unfortunately, the development of immoral civilizations caused damage to existing natural arrangements.



Fig. 2. Conservation Pillars

Conservation University is a university which in implementing the three principles of higher education refers to (protection, preservation and sustainable use) of natural resources and cultural arts and is environmentally friendly. In the academic text, it is emphasized that the Conservation University has a goal that will be achieved loaded with a very high and universal value. Thus, reciprocal changes between environment and language are learned through eco linguistic studies. Eco linguistic studies examine ecosystems that are part of the human life system (ecology) with the language that humans use in communicating in their environment (linguistics). That is, the attitude of students towards expressions of environmental preservation on the conservation campus will affect the personal and community behavior of students in conservation. As the scope of the concept of conservation is very broad, which is also closely related to the intrinsic dimensions of humanity, both in the form of religious morals and socio-culture as a whole, conservation is an effort to maintain, preserve, and accept change and/or development. Changes in question are not changes that occur drastically and immediately but are naturally selected changes. It aims to maintain the identity and resources of the environment, and develop several aspects to meet the current needs of modernity and the quality of life better. Thus, in the conservation concept there is a flow to renew (reuse), reuse (reduce), reduce (reduce), recycle (recycle), and cashback (refund) [3].

As stated earlier, there are 7 types of conservation pillars, one of which is the pillar of clean energy that regulates the energy saving and utilization wisely. Regulation of the Chancellor of UNNES Number 27 of 2012 concerning Campus Governance Based on Conservation at UNNES. Article 8 explains, "pillar of clean energy aims to save energy through a series of policies and actions in utilizing energy." Produced awareness of UNNES citizens in reducing emissions: using energy-saving equipment (65%), reducing energy consumption per unit (68%), finding other solutions for energy reduction (42%), and disseminating energy literacy to UNNES residents (74%).[4] The biggest use of energy from buildings in UNNES is an air conditioning system that is 50-70%, then lighting with artificial energy is 10-25%.[5] Conservation of electrical energy is a systematic, planned, effective and integrated action or effort to preserve its resources and efficiency / savings in its use. Conservation of electrical energy is a basic thing that must be implemented in the management of electrical energy. Conservation not only has an impact on energy

consumption and costs, but on the environment. Conservation of electrical energy can be carried out from various sides, both from generation, transmission - distribution, load / consumer. The most dominant energy conservation effect is on the consumer side as a control of the use of equipment and electricity.

Apart from clean energy, there are also paperless policy pillars. Non-paper is an effort to reduce production and use of paper, a simple way but has goals and benefits to prevent bigger problems, one of which is global warming. Making paper comes from tree fibers or in other words the basic material of paper is taken from nature. If the production and manufacture of paper continues to be carried out uncontrollably, as well as making each tree that should function to balance nature into a hazardous material that can damage nature. Besides that, the process of making paper requires a lot of energy and produces dangerous wastes. Paperless has benefits not only for the environment but also for humans. For the environment, it functions to preserve forests, keep the flora and fauna in the forest from becoming extinct, prevent forest degradation and deforestation, prevent global warming, while the benefits for humans are efficiency towards production costs, reduced air pollution and so on. The concept of 3R (Reduce, Reuse, Recycle) has been intensified for several years by environmental activists. Reduce the meaning is to reduce use, Reuse is to reuse and Recycle is reprocessing. Paperless is a part of Reduce. The paperless era continues to enter various fields. The paperless concept raises the issue of saving paper so that it can reduce administrative costs. But in realizing paperless certainly must be supported by adequate information technology. The main challenge for developing information systems is the financial aspect, requiring funds for supporting equipment. The use of facilities such as hotspots for students certainly requires facilities such as computers, laptops and notebooks. Under information technology as it is today the community is increasingly dependent on increasingly sophisticated facilities. Thus we indirectly learn to grow a sense of initiative to utilize environmentally friendly technology to preserve nature. UNNES also utilizes solar power panels to drain electricity in campus governance. Aside from being a street lighting, the heaven power panel is also used as a driving force in environmentally friendly cars. UNNES has several cars and environmentally friendly transportation in realizing as a conservation-minded campus.

UNNES always innovates and mixes all components in order to realize its vision as a conservation-minded university. One of the efforts made is to optimize information technology. It is well known that optimizing the right technology will have a big positive impact. The industrial revolution 4.0 provided an opportunity for Indonesia to innovate. This era of industrial revolution 4.0 is very closely related to the maximum utilization of digital technology.[6] Internet users in the world at the end of January 2018 reached 4 billion. This means that more than half of the world's population is connected to

the internet. Globally, social media users grew by 13 percent in the past 12 months. Central and South Asia recorded the fastest increase of 90 percent and 33 percent respectively. Saudi Arabia showed the biggest increase compared to other countries which was 32 percent. Followed by India at 31 percent and Indonesia 23 percent. Internet users in Indonesia are indeed quite large and potential.

Therefore, based on this background, the aim of this study is to increase public awareness in protecting the environment and to influence various fields of life including an agency or company.

## II. RESEARCH METHOD

The method used in this research is descriptive method with case study techniques. Yin says the case of investigating contemporary study is an empirical investigation of phenomena in the context of real-life, especially when the boundary between the phenomenon and context is not so clear [7]. The reason for choosing a research location at UNNES because the university has implemented a conservation pillar policy in the operational implementation of the campus. In addition, the implementation of this policy also had a major impact on the operational progress of UNNES. UNNES can be a role model in this policy because it can be applied in agencies or companies. In its implementation, the use of technology is very massive to be used for the success and progress of the campus. However, there are have several obstacles such as human resources, finance and so on. Hopefully, with the synergy and innovation, will overcome these problems. The time of this study is from July 10 to July 25, 2019, located at the Office of UPT of Conservation UNNES, Semarang, Indonesia.

The key informants in this study were carried out intentionally (purposive) and had been carefully considered, hoping that these informants could assist researchers in writing and developing this research. The key informants in this study were Prof. Dr. Ir. Amin Retnoningsih, M.Si. as Chairman of the UPT of Conservation Development in UNNES, 3 heads and staff of the Division of UPT Conservation Development, Muhammad Hanif as Chair of Conservation Cadres, 5 lecturers, 5 academics and 20 students from UNNES. The data used in this study are primary and secondary data, while the data collection techniques are through observation, interviews, and documentation.

## III. FINDINGS AND DISCUSSION

UNNES is the one university that focused on conservation. Written on Regulation of the Chancellor of UNNES Number 27 of 2012 concerning Campus Governance Based on Conservation at UNNES especially flower 2, campus governance based on conservation is aim to create the weather of campus that support in protecting and also using the resources wisely via

continuous development environmental-thoughts.[8] On flower 3, this campus governance based on conservation is implemented by 7 pillars of conservation, there are

### 1. Biodiversity Conservation

From the Groundstroke results data, student groups treated with reciprocal teaching styles, overall. Obtained a range between 30 and 36, there was an average price of 32.50 and a standard deviation of 1.606. Distribution of frequency distributions resulting from Groundstroke, student groups treated with the overall reciprocal teaching style, presented in the histogram as follows. See below:

Biodiversity spreads not uniformly in the world. However, biodiversity has benefits for human life both directly and indirectly. UNNES in organizing the biodiversity conservation conducted various efforts including breeding animals scattered in the Faculty of Mathematics and Natural Sciences, Engineering, and around the Auditorium. In addition, UNNES naturally becomes a biodiversity residence. According to the results of the analysis, general the UNNES Campus has a high wealth and diversity of species of herpetofauna.[9] The results of the analysis also show that the UNNES Campus has a high Evenness level.

Factors that have resulted in a high index of diversity in the UNNES Campus are among others because there are still many open spaces which are the habitat of both Amphibian and Reptile herpetofauna groups, such as greening areas, mini forests, reservoirs, and educational tourism gardens. Amphibia and Reptile habitat can be divided into 2 (two) large habitats, namely aquatic and terrestrial. Aquatic habitats include ponds and rivers, while teresrial habitats include both forest and arboreal floors. Habitat diversity will affect the diversity of species of an animal. The more diverse habitat structures, the greater the diversity of animal species, this is because habitats provide sufficient resources, especially as a place to find food, shelter, and breed.

The UNNES Campus now is a fairly good habitat for biodiversity, especially various species of herpetofauna. However, UNNES is also very vulnerable to various human activities. The construction of new buildings, pollution of river water, and garbage may be a threat to the existence of herpetofauna, therefore the relevant parties, especially policy makers in UNNES, need to pay more attention and take action to protect or conservation in situ to the areas that become herpetofauna habitat. Routine data collection also needs to be done to monitor the herpetofauna population at the UNNES Campus and its surroundings.

Another effort made by the UNNES Campus was to create a bioedupreneurship through the Oemah Keboen UNNES business unit. The Omah Keboen UNNES business unit has developed and provided the JAS, Outbound, House of Science, Butterfly Breeding and Leaf Bone Package packages. The Omah Keboen UNNES business unit has been able to improve facilities and

services by adding equipment and facilities to the facility so that the program can be implemented properly. The Omah Keboen UNNES business unit is the only activity unit in UNNES with the main activities as providers of eco-data services, learning and training about nature, thus opening opportunities as new business embryos.

## 2. *Green Architecture and Internal Transportation*

The term green architecture is architecture that minimally consumes natural resources, including energy, water, and material, and minimally impacts negatively on the environment. Whereas the internal transportation or green transportation is an environmentally friendly transportation device that uses energy as minimum as possible which does not produce greenhouse gases. Environmentally friendly means of transportation include hybrid cars and electric cars. UNNES has implemented these two systems (green architecture and internal transportation) to support energy savings. Parking policy also encourages UNNES people to save energy by walking along campus. UNNES also has a private bus which is used several times for campus activities. This internal transportation is used to save energy that will be used by the UNNES community.

## 3. *Paperless Policy*

In 2010, UNNES declare as a Conservation University. It makes consequences for UNNES to conserve the nature. Paperless policy is the one policy which support conservation. Paperless policy can be implemented using 3R concept (reduce, reuse, recycle). In addition, UNNES had a good movement in paperless policy with applied technology. SIKADU is the one information system to support academic in UNNES. This is no need a whole paper, so it is very paperless. Besides, UNNES has launched several information system, there are, SIKADU (academic), MULANG (online course presence), SIPINSET (to borrow UNNES's asset) and etc.

## 4. *Waste Management*

Waste Hazardous and Toxic Materials (Limbah B3) can threaten environmental sustainability. Therefore this waste needs to be managed properly so that it does not threaten the present generation and future generations. This is in line with one of the principles of sustainable development, namely justice between generations. In this principle there are 3 important things, namely (1) conservation of options, namely conservation of diversity of environmental resources so that future generations have many choices, (2) conservation of quality, that each generation must maintain environmental quality, and (3) conservation of access, each generation must guarantee the same access rights.[10]

The step taken by UNNES to manage waste was by conducting waste management training for the UNNES community and the conservation cadres. In addition, the construction of biopori at some point is one way to manage natural waste.

## 5. *Clean Energy*

Clean energy is energy derived from renewable energy. Renewable energy is energy that comes from sustainable natural processes. Some renewable energy such as solar power, wind power, water flow, biological processes or biofuel power, and geothermal energy. In the economics faculty there are solar powered lights installed on the front of the approach and around the building L. This lamp works by absorbing sunlight which will be used to emit light at night. In addition there are also bio pores at several points in the faculty as a step to manage waste into useful energy.

## 6. *Ethics, Art and Culture Conservation*

The meaning of conservation covers all preservation activities based on the local situation and condition. Preservation activities can also cover the conservation scope, restoration, reconstruction, adaptation and revitalization. The needs of conservation is inevitable. Without preservation, the natural phenomena, natural destruction, and either the renewable or unrenewable natural resources destruction will always on going. The Conservation Education is substantially urgent besides the conservation advocacy and participative development. Conservation values which need to preserve and maintain are the values of planting, using, preserving, and learning physically and non-physically. Conservation move is a mutual aid, and impossible to be done alone. Beside, conservation move, must not be an exclusive move, but how to create a conservation move which gains supports and involves public participation. Conservation move is a tool, therefore, the words "the unity of words and actions" and a saying "do what is said and say what is done" shall be the spirit of conservation.

The character values of conservation are formulated by UNNES in the context of planting and building the character of conservation-minded students. Eleven conservation character values are religious, honest, intelligent, fair, responsible, caring, tolerant, democratic, love of the country, tough, and polite. Then these values are reflected into eight faculties in UNNES into 8 conservation values namely (1) inspirational (Faculty of Education), (2) humanist (Faculty of Language and Art), (3) caring (Faculty of Social Science), (4) innovative (Faculty of Mathematics and Natural Science), (5) sportsmanship (Faculty of Sports and Health Science), (6) creative (Faculty of Engineering), (7) honesty (Faculty of Economics), and (8) justice (Faculty of Law). All of these values are taught through the Conservation Education course weighing 2 credits that must be taken by each UNNES student.

## IV. CONCLUSION

UNNES as a university that has declared itself as a conservation university has tips to make it happen. Through the Rector's Regulation Number 27 of 2012 concerning Campus-Based Conservation Management at UNNES, the policies in campus management are well

poured. Starting from biodiversity conservation, green architecture and internal transportation, paperless policy, waste management, clean energy, ethics, art, and culture conservation, and conservation cadres. All the steps are well done in and have a good impact. This can be implemented not only at the UNNES Campus, but at all institutions/companies. Should, all institutions/ companies are able to apply the 7 pillars of conservation as an effort to preserve nature. The use of technology can also be integrated with these pillars to produce conservation products that are effective and efficient and environmentally friendly.

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