



MAINTENANCE OF CAMPUS' ENVIRONMENT IN PANDEMIC ERA: A SURVEY AT PRIVATE UNIVERSITIES IN SOUTHEAST ASIAN COUNTRIES

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ABSTRACT- This study aims to determine the maintenance of campus' environment during the Covid-19 pandemic at several private universities in Southeast Asian countries such as Indonesia, Malaysia, Vietnam, and Cambodia. Furthermore, sampling was conducted using a purposive technique to collect data. The study focuses on some variables involving the maintenance of the campus' environment, commitments to guide colleagues, and support from stakeholders, which are the most important keys to this analysis. Also, an online survey using Google forms and factor loading statistics showed that all universities in Southeast Asia are highlighting the environmental aspects of maintenance during this period of Covid-19. However, the limitation is that online data collection cannot guarantee the accuracy of the respondent's response. The recommendation is that further study can add various variables and relate them to the new normal era. The implications are that the management of the campus' environment becomes very important in the event of disasters or unforeseen situations.

Keywords: Maintenance, Environment, Campus, Countries

I. INTRODUCTION

The campus' environment is very important to be maintained and cared for because of its unity of interaction between students, lecturers, and administrative staff. Furthermore, campus owners, managers, and users are social capital for a university. These higher-education leaders develop different strategies for safely returning to campus after COVID-19 since reopening institutions during the pandemic is a uniquely complex problem. Therefore, this study aims to assist higher education leaders with decision-making frameworks, guidance, and examples from more than 247 institutions, including governments, public health organizations, universities, and private organizations.

Marbuah (2019) stated that the role of social capital in influencing the willingness of individuals to contribute to environmental protection in Sweden is very important. Furthermore, Hubelova et al (2020) et al also stated that environmental damage is affected by many activities on the ground that they are not managed properly.

Lundberg et al (2020) prioritized political sectors to support a clean and maintained environment. Furthermore, Güneroğlu et al (2018) reported that the level of green space increased after the transformation project. This was achieved by improving environmental quality and recreational opportunities with a collective awareness. It shows that environmental preservation is important on a small scale and broader scale.

With special regards to environmental maintenance on campuses and colleges, Bahri (2013) describes an Eco Campus-Based Environmental Education Training Model to Improve Environmental Effective Behavior. The results of the previous study showed the importance of obtaining a campus environmental care system, especially in Southeast Asian countries. This is in line with the study of Neliwati et al (2019), where it was stated that the attitude of Lecturers and Students to the cleanliness of sidewalks and campus yards is very responsive and supports management in the implementation of maintaining the environment. This issue is very important and has been widely discussed, especially during the Covid-19 pandemic. Therefore, this study is primarily based on the management of the campus environments in higher institutions. Furthermore,

it poses questions related to the perception of campus managers in several ASEAN countries, such as Indonesia, Malaysia, Thailand, Vietnam, and Cambodia. The factors that determine environmental management in universities with the involvement and participation of students, lecturers, educational staff, and leadership commitment were also discussed in this study.

II. THEORETICAL FRAMEWORK AND HYPOTHESIS

Generally, environmental education does not only teach theories about preservation. It also needs to be in line with direct practice, which should be directly conducted daily.



Hubelova et al (2020) reported in a study entitled "Influence of Human Activity on Surface Water Quality in Moravian Karst" that agricultural activities, population growth, and settlement changes were identified as the main sources of pollution in past. Agricultural activities have experienced major positive changes - especially in terms of management and use of fertilizers. Currently, the strong suburbanization trend (increase in population after 2000, expansion of the built-up area, increased amount of municipal wastewater) is the main risk factor for deterioration of the water quality in the Jedovnice river water and consequently affecting the karst water quality.

Marbuah (2019) study, "Is the willingness to contribute to environmental protection in Sweden affected by social capital?" Reported that all four parameters of social capital are empirically significant and a strong driver of the Swedish public's willingness to contribute when vehicle prices rise or through higher taxes or lifestyle changes to protect the environment.

Xiao et al (2019) with the title "Does the Culture Service Supply of Green Spaces Match the Demand of Residents in a New District? A Perspective from China" showed that there is a supply-demand mismatch in each sub-district in the study area. Furthermore, newly developed areas have more of the surplus block and demand-supply. However, over-demand blocks are mainly distributed in old cities, followed by suburban areas, and this method may be used to examine green space distribution in new districts.

Güneroğlu et al (2018) study entitled "Enhancing Environmental Quality of Cities Using Landscape Transformation Projects", stated that the level of green space improves after transformation projects by increasing environmental quality and recreational opportunities. Therefore, it is evident that the study area is becoming more attractive than before following the quantitative user preferences.

Several theoretical studies and empirical findings are linked into a conceptual framework since this study proposes several hypotheses which are stated as follows:

- H1: Lecturer participation affects leadership commitment
- H2: Student participation affects leadership commitment
- H3: Educational staff Participation affects Leadership Commitment
- H4: Lecturer participation affects environmental policy
- H5: Student participation affects environmental policy
- H6: The participation of education staff affects environmental policy
- H7: Leadership commitment affects environmental management
- H8: Environmental Policy on Environmental Management

Graphically, the relationship between variables that becomes a model for environmental management following stakeholder's theory is the conceptual framework used, and it is shown below:

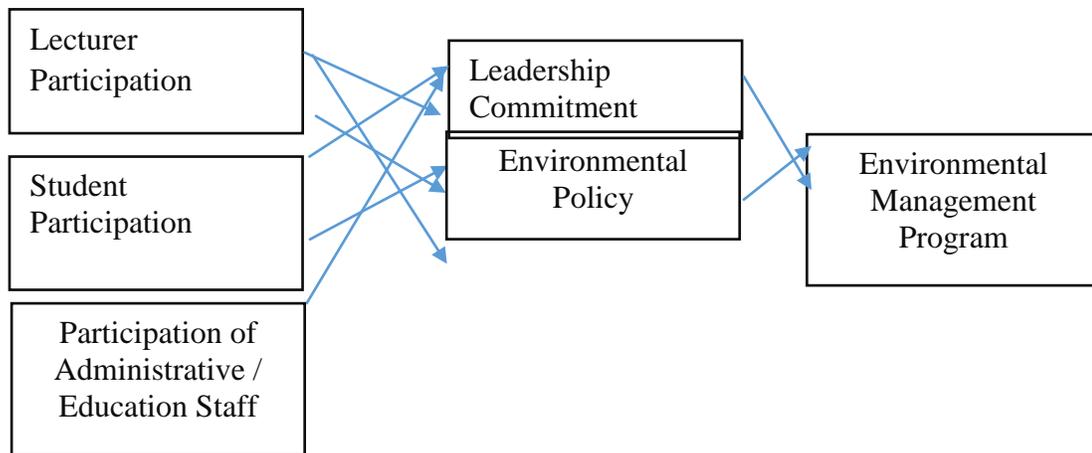


Figure 1 Research Conceptual Framework

III. METHODS

The study was conducted at several universities in Indonesia, Malaysia, Vietnam, Thailand, and Cambodia. Furthermore, the distribution of the questionnaires was conducted through an online Google form from April to July 2020. The population consisted of students, lecturers, and educational staff at each university. Also, a total of 274 samples were collected and the data were processed statistically using the simple random sampling method. Therefore, every member of the population has the same opportunity to be sampled. The data collection technique was an online survey, and the analysis technique used was Partial Least Square (PLS). This method was used because the relationship between variables was relatively complex with a small sample size. PLS provides a test facility between the intervening, the dependent, and the independent variables. Therefore, a test conducted is expected to provide reasonable answers to the proposed hypotheses.

IV. RESULTS AND DISCUSSION

After collecting field data, the next stage is the tabulation and testing. The PLS application is used in two stages to describe the variables of the Hypothesis test results as described in table 1 below:

Table 1 Hypothesis Testing Results

Hypothesis	The relationship between variables		Path Coefficients	T Statistics	P Values	Research Result
	From	To				
H1	Lecturer Participation	Leadership Commitment	-0,224	0,752	0,452	Hypothesis Rejected
H2	Student participation	Leadership Commitment	-0,239	1,101	0,272	Hypothesis Rejected
H3	Participation of Education Staff	Leadership Commitment	-0,020	0,080	0,936	Hypothesis Rejected
H4	Lecturer Participation	Environmental Policy	0,123	1,150	0,251	Hypothesis Rejected
H5	Student participation	Environmental Policy	0,226	1,490	0,137	Hypothesis Rejected
H6	Participation of Education Staff	Environmental Policy	0,564	4,353	0,000	Hypothesis Accepted
H7	Leadership Commitment	Environmental Program	0,830	4,505	0,000	Hypothesis Accepted
H8	Environmental Policy	Environmental Program	0,278	2,837	0,004	Hypothesis Accepted

Higher-education institutions or universities in the United States have already taken dramatic first steps to protect their people and keep learning. Some other actions maybe considered in the next weeks and months. The study focuses on some variables involving the maintenance of the campus' environment, commitments to guide colleagues, and support from stakeholders, which are the most important keys to this analysis. Also, an online survey using Google forms and factor loading statistics showed that all universities in Southeast Asia are highlighting the environmental aspects of maintenance during this period of Covid-19. Not only taking online lectures, student guidance and proposal seminars to comprehensive examinations are also carried out online. Advances in technology now allow students to study completely online while still socializing with classmates, watching lectures, and participating in subject-specific discussions. While some people consider online learning to require a higher level of self-motivation (Wallace, 2003; Cook & Sonnenberg, 2014; Abidin, 2020; Blanco et al., 2020; Komayha & Tarhini, 2020).

The response of university managers is important, especially for older lecturers because it takes time to optimize technology in online learning. For young lecturers, it will be easier to optimize online lectures. However, that does not mean that lecturers who are underage can optimize technology for this online lecture. Because there are also young lecturers who find it very difficult to learn something new. All lecturers have different portions in terms of absorbing technology. It is the same with students who have different portions and ways of absorbing the knowledge or material given. It's just that, the constraints and demands are that many lecturers do not give online lectures but give ongoing assignments.

V. CONCLUSION

The participation of educational staff has a positive effect on environmental policies. Leadership commitment has a positive effect on the Environmental Program. Environmental Policy has a positive effect on the Environmental program. This analysis showed that the participation of educational/administrative staff is easier to be controlled. Furthermore, environmental management policies are also relatively easier when supported by leadership commitment. Environmental programs are more effective when all elements of the campus are supported. The results showed that universities in Southeast Asian countries have implemented management systems to support the creation of an environmentally oriented campus. However, the limitation is that the distribution of universities is feared to be sample bias. Therefore, more massive and comprehensive further study needs to be conducted to standardize environmental management recommendations in university or higher education.

REFERENCES

1. Abidin, A. Z. (2020). The Important Role of Social and Cultural Capital in Online History Learning during the Covid-19 Pandemic. *Journal La Edusci*, 1(5), 15-18.
2. Bahri, S. (2013). *Model Pelatihan Pendidikan Lingkungan Hidup Berbasis Eco Campus Untuk Meningkatkan Perilaku Arif Lingkungan: Studi di Universitas Pancabudi Medan*. Doctoral dissertation, Universitas Pendidikan Indonesia.
3. Blanco, Q. A., Carlota, M. L., Nasibog, A. J., Rodriguez, B., Saldaña, X. V., Vasquez, E. C., & Gagani, F. (2020). Probing on the Relationship between Students' Self-Confidence and Self-Efficacy while engaging in Online Learning amidst COVID-19. *Journal La Edusci*, 1(4), 16-25.
4. Cook, C. W., & Sonnenberg, C. (2014). Technology and online education: Models for change. *Contemporary Issues in Education Research (CIER)*, 7(3), 171-188.
5. Güneroğlu, N., Bekar, A. G. M., Aktürk, P. M. E., & Dihkan, P. M. A. (2018). Kentsel Yeşil Alan Sistemlerinde Hobi Bahçeleri; Karadeniz Teknik Üniversitesi Kanuni Kampüs Örneği. *Journal of Social And Humanities Sciences Research (JSHSR)*, 5(25), 2253-2263.
6. Hubelova, D., Mala, J., Kozumplikova, A., Schrimpelova, K., Hornova, H., & Janal, P. (2020). Influence of Human Activity on Surface Water Quality in Moravian karst. *Polish Journal of Environmental Studies*, 29(5).
7. Komayha, L., & Tarhini, J. (2020). The Impact of Learning Content on Secondary Students' Motivation to Learn English in Lebanese Public Schools: Three Case Studies. *Middle Eastern Journal of Research in Education and Social Sciences*, 1(2), 151-166.
8. Lundberg, S. M., Erion, G., Chen, H., DeGrave, A., Prutkin, J. M., Nair, B., & Lee, S. I. (2020). From local explanations to global understanding with explainable AI for trees. *Nature machine intelligence*, 2(1), 2522-5839.
9. Marbuah, G. (2019). Is willingness to contribute for environmental protection in Sweden affected by social capital?. *Environmental Economics and Policy Studies*, 21(3), 451-475.
10. Neliwati, N., Marbun, D., & Mahariah, M. (2019). The Implementation Of Curriculum Based Indonesian National Qualification Framework (Kkni) in Islamic Education Study Program At The Islamic Higher Education In Medan. *International Journal on Language, Research And Education Studies*, 3(1), 71-84.
11. Wallace, R. M. (2003). Online learning in higher education: A review of research on interactions among teachers and students. *Education, Communication & Information*, 3(2), 241-280.

12. Xiao, H., Sheng, S., Ren, Z., Chen, C., & Wang, Y. (2020). Does the Culture Service Supply of Green Spaces Match the Demand of Residents in a New District? A Perspective from China. *Polish Journal of Environmental Studies*, 29(5).