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Environmental Awareness and Accountability of Stakeholders in a State University in the Philippines

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Abstract

Objectives/methods: This research study delved to describe the level of awareness and assess the level of environmental accountability of Eastern Samar State University (ESSU) Internal stakeholders on the following parameters: Environmental Policy Implementation; Environmental Operation Management; and Environmental Concept Integration. It attempted to set the relationship between the stakeholders' level of awareness and their environmental accountability and be able to develop ESSU's environmental policy framework in reference to the identified parameters as reflected in the adopted questionnaire with a slight modification on the sequencing of items from the "Green Audit" Framework. Descriptive - Evaluative research design was used that led in the framing of environmental policy framework for both academic and administrative operations. This involved 121 respondents taken from the 30% of the total population of the three(3) groups of respondents using cluster sampling Key Officials, Teaching Staff and Non-Teaching Personnel in School Year 2020-2021. **Findings:** ESSU stakeholders are aware on the major national environmental policies and on the university's programs on environment with a grand total mean of 3.59 and had expressed that they are accountable on environmental policy implementation alongside with its operational management and concept integration with a Mean of 3.94. With regards to problems encountered, environmental accountability got a Mean of 3.50 where the stakeholders interpreted it to be problematic aspect and needs to be addressed with a policy framework. A positive correlation was noted between stakeholder's level of environmental awareness and their level of environmental accountability with an r and computed values of .97 and .00 respectively, at .05 level of significance. **Novelty and Application:** The information obtained from the study will serve as the basis in the development and institutionalization of University Environmental Policy Framework to improve stakeholders' environmental behavior for stronger sense of environmental awareness and accountability.

Keywords: Environmental awareness; Environmental accountability; Environmental policy implementation; Environmental operation management; Environmental concept integration; Internal stakeholders

1 Introduction

Our environment is being progressively more degraded by human activities which becomes a global concern and remained a hot topic for decades. Researchers are trying continuously to figure out the reasons behind environmental degradation⁽¹⁾. Studies would show that human activities are considered a fundamental factor behind environmental deterioration⁽²⁾. These activities are intentionally or unintentionally responsible for the deterioration in environmental quality. Environmental activities of people in different places, organizations and communities may need to be assessed and re-assessed in terms of their awareness and accountability to sustain our natural resources for them to create and enjoy a high quality life for themselves and the future generations.

In the midst of environmental problems and degradations, the world needs people who are environmentally aware and accountable who have the ability to understand the best mechanisms that will sustain human and other life. People's awareness in the community and in an organization has been recognized as a powerful tool in environmental sphere. Information through education has an important impact to alter behavior⁽³⁾.

Several studies have been conducted to assess environmental awareness and practices of students in various levels. Foreign studies have focused mainly on the environmental awareness and practices of College students^(4,5), tertiary students' environmental awareness in relation to their stream of study and there are of residence⁽⁶⁾, college students' level of awareness, attitude and participation in environmental activities⁽⁷⁾, intrinsic and extrinsic motivation of tertiary students and their ecological awareness and practice⁽⁸⁾, the level of environmental awareness and practices on recycling of solid waste of college students⁽⁹⁾, and the high school student's environmental risk perceptions and environmental awareness levels⁽¹⁰⁾.

The Education for Sustainable Development of the United Nations Educational Scientific, and Cultural Organization (UNESCO) reiterated that education is an indispensable tool towards sustainable development. Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems and which has knowledge, attitudes, commitments and skills to work individually and collectively towards the solution of current problems and prevention of new one⁽¹¹⁾.

Different countries in the world continue to develop active environmentalism among students and the people in general. The environmental problems have become issues of great concern to many parties. However, many people in Ethiopia seem to have low level of knowledge about environmental problems⁽¹²⁾. In Turkey, the level of high school students' environmental awareness is high as revealed by one study⁽¹³⁾. The level of environmental awareness and practices on recycling of solid wastes in one University campus in Malaysia was likewise gauged⁽¹⁰⁾.

According to European Environment Information and Observation Network, Environmental Awareness is the growth and development of awareness, understanding and consciousness toward the biophysical environment and its problems, including human interactions and effects. Thinking "ecologically" or in terms of an ecological consciousness

In the Philippines, the Department of Education (DepEd), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA), in coordination with the Department of Environment and Natural Resources (DENR), the Department of Science and Technology (DOST) and other agencies, in consultation with experts on the environment and the academe, lead the implementation of public education and awareness programs on environmental protection and conservation through collaborative interagency and multi-sectoral effort at all levels.⁽¹⁰⁾

Government agencies, non-governmental organizations (NGOs), academic institutions and corporations in our country are on their way of developing a wide range of mechanisms to increase awareness about environmental activities and stimulate improved framework on environmental programs to resolve environmental issues through looking at one's environmental accountability.

Environmental Accountability encompasses a wide range of mechanisms—from enforcement to public participation to public reporting of environmental data—that expose the environmental behavior of organizations and individuals to the public creating either a legal obligation to improve environmental behavior or a stronger sense of responsibility to better manage activities that have environmental impacts⁽¹⁴⁾.

Cognizant to the provisions of Republic Act 9512 known as "An Act to Promote Environmental Awareness through Environmental Education and For Other Purposes", challenged by Education for Sustainable Development (ESD) which aims to reorient education to empower individuals to make informed decisions for environmental integrity, social justice, and economic viability for both present and future generations, whilst respecting cultural diversities⁽¹⁵⁾ (UNESCO, 2014b) and making a positive response to Climate Change Education (CCE) that aims in enhancing the public's understanding of climate change, its consequences, and its problems, and to prepare current and future generations to limit the magnitude of climate change and to respond to its challenges, Eastern Samar State University is taking its initiatives in support to the above mandates.

Alongside with the university's effort on providing education that integrates environmental concepts, numerous programs, projects and activities were undertaken by the university, like taking an International Mileage in Hosting Conferences on

Integrative Disaster Risk Reduction Management, Institutionalizing the Center for Eco-Governance and Climate Change Action (CEGCCA) and offering a curricular program, BS in Environmental Science and many other environmental programs yet the environmental awareness and accountability among ESSU stakeholders have never been measured since then and has not been given much attention.

The present study observes that most of the studies in the Philippines are focused on the nexus of environmental awareness and practices of high school students as basis for disaster preparedness program⁽¹⁶⁾, level of awareness and extent of practices in green technology of College students⁽¹⁷⁾, and the environmental awareness of the graduating students⁽¹⁸⁾ and have overlooked into describing and interrelating the environmental awareness and accountability of all university internal stakeholders who have the capacity to manage environmental development programs.

In a larger sense, the results of this study will provide significant inputs to local and international universities which have essential role in creating awareness and accountability among their internal and external stakeholders on different environmental issues. Significantly, the insights would lead to improve stakeholders' environmental behavior for stronger sense of environmental awareness and accountability through institutionalization of environmental policy framework.

2 Methodology

2.1 Research Design

Descriptive - Evaluative research design was adopted for the study as it delved into objective description and assessment on the environmental awareness and accountability among the stakeholders of university. This research design aims to systematically obtain information on the real situations that will lead in the framing of environmental policy framework for both academic and administrative operations.

2.2 Respondents of the Study

The study involved the university key officials of ESSU Main Campus in 2020 as they have the management capacity to oversee the implementation of policies, programs and activities of the university, faculty members will be involved as they are the key players in the implementation of the university curricular programs and the non-teaching personnel as they are the support staff in the implementation of the university's policies on environmental management.

2.3 Sampling Technique

A total of one hundred twenty-one (121) stakeholders were the respondents taken from the thirty percent (30%) of the total population of the three (3) groups of respondents using "Cluster Sampling": university key officials, teaching and non-teaching staff who were randomly selected through computer random draw to provide the needed information of the study.

2.4 Research Instrument

A survey questionnaire was used in gathering the data relevant to environmental accountability among ESSU stakeholders which was modified from the "GREEN Audit" from New South Wales, Australia (Environmental Education Guide, 1999). Slight modification in the research instrument was made in the sequencing of items based on the identified and categorized parameters in the study.

2.5 Data Analysis

Result of the data gathered was analyzed using the Mean and Pearson Product Moment of Correlation as statistical tool. Mean was used in describing ESSU stakeholders' level of environmental awareness and environmental accountability on the following aspects: Environmental Policy Implementation; Environmental Operation Management; and Environmental Education Integration, while Pearson Product Moment of Correlation was used in determining the significant relationship between stakeholders' level of environmental awareness and their environmental accountability.

3 Results and Discussion

3.1 Level of ESSU Stakeholders' Environmental awareness

The ESSU key officials in the university are aware with a grand mean of 3.54 as well as the teaching and non-teaching personnel having a grand mean of 3.64. For key officials, integration of environmental concepts has the highest mean while among the teaching and non-teaching personnel, their awareness on environmental policies has the highest mean among all others (Table 1).

The finding is consistent with the study of Rogayan & Nebrida (2019) that the Science students are “Very Aware” in environmental concept and state of the environment as revealed by the overall mean of 3.67. The findings is consistent with the study of Singh (2015) which concluded that the undergraduate students are very much aware in environmental concepts and the state of the environment as revealed by its overall mean of 3.67.

As noted, stakeholders in schools are aware of environmental concepts and policies that are deemed important.

Table 1. Ratings of ESSU Stakeholders on the Level of Environmental Awareness

Items	Key Officials		Teaching & Non-Teaching Personnel	
	Mean	Interpretation	Mean	Interpretation
Environmental Policy	3.54	Aware	3.75	Aware
Environmental Operation Implementation	3.33	Aware	3.59	Aware
Environmental Concept Integration	3.76	Aware	3.57	Aware
Grand Mean	3.54	Aware	3.75	Aware

3.2 Level Stakeholders Environmental Accountability

Exhibited in the summary ratings for environmental accountability, the university key officials regarded themselves as accountable on environmental policy implementation, operation management and concept integration, with a grand mean of 3.86. The teaching and non-teaching personnel regarded themselves as accountable on the different parameters on environmental accountability (Table 2). This would illustrate that there is a need to capitalize their sense of accountability on environment by establishing appropriate environmental programs to be studied on for proper documentary analysis.

Table 2. Ratings of ESSU Stakeholders' Environmental Accountability

Items	Key officials		Teaching & Non- Teaching Personnel	
	Mean	Inter- pretation	Mean	Inter- pretation
Environmental Policy Implementation	3.85	A	3.98	A
Environmental Operation Management	3.90	A	4.08	A
Environmental Concept Integration	3.84	A	4.03	A
Mean	3.86	A	4.03	A

Legend: A = Aware

3.3 ESSU Stakeholders Problems Encountered in terms of Environmental Accountability

The data shows that both the key officials and the teaching and non-teaching personnel in the university regarded the three (3) identified problematic aspects on environmental accountability as serious matter, 3.52 and 3.49 respectively. This imply that ESSU stakeholders are so keen in observing flaws and weaknesses in the environmental policy implementation alongside with operation management and concept integration.

Taking the general response on the ESSU Stakeholders' Problems Encountered on Environmental Concept Integration reveals that the key officials considered the identified issues as “Not a Problem” in the university with a mean rating of 3.32 and 3.46 for the teaching and non-teaching personnel.

As noted, it is the non-integration of environmental concerns/themes in the different meetings, for a and seminars conducted gets the highest mean (3.52, Serious Problem) and Non-incorporation of personnel environmental-authentic based accountability assessment in the office/unit with a mean rating of 3.50, Serious Problem for the key officials and teaching and non-teaching personnel respectively.

The data reveals that the stakeholders have not considered the university on Environmental Accountability in terms of concept integration as Problems. These issues might exist in the implementation of environmental policy in the university but there is a need to clarify specific accountability of each stakeholder for a more realistic and authentic policy implementation. Policy-makers of the university need to consider these problems as basis in coming-up with a clear-cut policy framework to address various concern specifically on the policy of procurement of equipment, integration of environmental themes in the different for a and seminars conducted, assessment tool to measure one's environmental accountability in the university.

Table 3. Summary Ratings of ESSU Stakeholders on Problems Encountered in terms of Environmental Accountability

Items	Key Officials		Teaching & Non- Teaching Personnel	
	Mean	Inter- pretation	Mean	Inter- pretation
Environmental Policy Implementation	3.58	SP	3.48	NP
Environmental Operation Management	3.66	SP	3.51	NP
Environment Concept Integration	3.32	SP	3.46	NP
Mean	3.52	SP	3.49	NP

Legend: SP= Serious Problem NP= Not a Problem

3.4 ESSU Stakeholders Level of Environmental Awareness, Accountability and Problems Encountered

Table 4 showed that both the key officials and the teaching and non-teaching personnel are aware and accountable on the existing national and local environmental policy. In terms of problems encountered by both respondents, they regarded environmental accountability as a serious problem that need to be addressed through a clear-cut policy.

Table 4. Ratings of ESSU Stakeholders' Level of Environmental Awareness, Accountability and Problems Encountered on Accountability

Items	Key Officials		Teaching & Non- Teaching Personnel		Grand Total Mean	Inter pretation
	Mean	Interpre tation	Mean	Inter pretation		
Environmental Awareness	3.54	A*	3.64	A*	3.59	A*
Environmental Accountability	3.86	A**	4.03	A**	3.94	A**
Problems Encountered on Accountability	3.52	SP	3.49	SP	3.50	SP

Legend: A * = Aware A** = Accountable SP= Serious Problem

3.5 Relationship Between the Respondents Level of Environmental Awareness and their Accountability

Table 5 presents the relationship between the stakeholders' level of environmental awareness and their level of accountability. It shows that the stakeholders' level of awareness has a positive relationship to their level of accountability. For the key officials, it has a degree a of freedom (r) of .97 with computed value of 0.00 which means significant at .05 level of significance. Similarly, the teaching and non-teaching personnel with degrees of freedom of .066 obtained a p-value of .001 which also indicates significant relationship at 0.05 level of significance

Table 5. Relationship Between the Respondents Level of Environmental Awareness and their Accountability

Stakeholders	Variables	r	P	Interpretation
Key Officials	Awareness Accountability	0.97	.000	Significant
Teaching & Non-Teaching Personnel	Awareness Accountability	0.66	.001	Significant

4 Conclusion

Based on the findings of the study, ESSU stakeholders are aware on the major national environmental policies and on the university's programs on environment. They had expressed that they are accountable on environmental policy implementation alongside with its operational management and concept integration. A positive correlation was noted between stakeholder's environmental awareness and their environmental accountability. Problems encountered on the identified aspects on environment are serious which need to be addressed with a policy framework of the university.

5 Recommendation

It can be noted that the environmental policy framework that will be instituted based on the findings of the study has not been validated, hence further verification as to the functionality and relevance is hereby needed. A qualitative study on university stakeholders' environmental behaviors can be explored to give a scientific basis on how to improve the implementation of environmental projects and programs in local and global setting.

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