GLOBAL ENVIRONMENTAL ISSUES AWARENESS AND THE PERCEIVED REMEDIAL MEASURES

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Abstract: *Environment can have formative impacts on students and employees perspectives regarding environment issues. This study was conducted to explore the awareness of the students and government employees on the different environmental issues and problems and the perceived remedial measures. Specifically it sought for the answers of the following problems: 1.To determine if the two groups of respondents are aware of the environmental issues.2.To find out the reasons why do the respondents are not fully aware of the environmental issues;3.To determine what environmental issues do the two groups of respondents aware of;4.To find out what are the actions or initiatives were taken by the government that the respondents aware of; 4.1There is no significant difference of the responses of the two groups of respondents on the actions or initiatives were taken by the government that the respondents aware of; 5)To determine what remedial measures can be further done to reduce environmental problems.5.1 To determine if there is a significant difference between the responses of the two groups of respondents on what remedial measures can be further done to reduce environmental problems.*

This study surveyed 90 undergraduate students and 30 graduate students and 30 government employees at Dagupan, Tabuk City in October 2014. Results of the study revealed that the respondents are aware of the environmental issues but may be they are not fully aware of the issues due to insufficient role of media/public forum, lack of environmental education, lack of government initiatives to make people aware. On what they are most aware, both the responded that they are most aware of the following environmental issues/ problems such as air pollution, deforestation, water pollution, and depletion of ozone layer. The respondents said that the following actions were taken by the government to control the environmental issues such as sanitation program, agriculture fair, anti-smoking law, social forestry, and Prohibition of using Poly bag (plastic bags). The correlation showed that there is significant difference between the responses of the two groups of respondents on the actions taken by the government to control environmental issues.

It was found out that the following remedial measures are suggested: Efficient public awareness, Promoting Urban Green Spaces, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles , Enhance the promotion and development of New Energy Saving Technologies, Promote Efficiency of Distribution System Nationwide to minimize traffic issues are to be considered. Based on this, the correlation showed that there is significant difference between the responses of the two groups of respondents on the remedial measures to control environmental issues.

Keywords: *Environment, Global Issues, Remedial Measures of Pollution*

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INTRODUCTION

Global issues now days are marked due to environmental issues which are the main reasons for the drastic climate changes. Such climate changes are accounted as the result of human activities due to industrial waste, overpopulation, wrong waste management practices, lack of awareness on the global issues and others which have caused damages to human and natural environment. According to World Health Organization report in 2013, Climate change is one of the most serious public health threats facing the nation, but few people are aware of how it can affect them. This can be said to have brought about by pollution from other countries which contributes to our air quality problems and can enter our food chain. Outdoor air pollution is associated with over one million deaths and countless illnesses each year across the globe.

In the Philippines, environmental issues like waste disposal problems, industrial pollution, road networks, forest degradation , etc. are causing much destructions to human's health and physical condition . It was observed also that these issues are occurring because of unawareness by the people of the different environment protection programs held by the government. Due to environment concerns by the government, part of RA no.9512 that was approved states that:

Republic Act No. 9 Tll A 1 An Act To Promote Environmental Awareness

Through Envlr0"Xxl Education And For Other Purposes

Be if enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

Section1. Title. - This Act shall be known as the "Environmental Awareness and Education Act of 2008".

Section. 2. Declaration of Policy. - Consistent with the policy of the State to protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature, and in recognition of the vital role of the youth in nation building and the role of education to foster patriotism and nationalism, accelerate social progress, and promote total human liberation and development, the State shall promote national awareness on the role of natural resources in economic growth and the importance of environmental conservation and ecological balance towards sustained national development.

Sec. 3. Scope of Environmental Education. – The Department of Education (DepEd), the Commission on Higher Education (CHED), the Technical Education and Skills Development Authority (TESDA), the Department of Social Welfare and .Development PSWD), in coordination with the Department of Environment and Natural Resources PENR), the Department of Science and Technology POST) and other relevant agencies, shall integrate environmental education in its school curricula at all levels, whether public or private, including in barangay daycare, preschool, non-formal, technical vocational, professional level, indigenous learning and out-of school youth courses or programs.

The Executive Order No. 214 December 9, 1994 is referred to As Establishing The Presidential Awards For The Cleanest And Greenest Local Government Units Of The Philippines. This order was established in order to motivate every government sectors and units to sustain the implementation of an act on Clean and Green Environment to counter environmental issues as well as problems. As a result, there were 122 provinces got titles on cleanest and greenest spots of the Philippines. The Cordillera province is on the greenest provinces of the Philippines.

However, due to existing environmental problems like waste problems, traffic problems, energy waste pollution, and Chemical pollutions, floods, and others. Care should be undertaken on how should the importance of awareness, knowledge, or attitude be emphasized? Madsen (1996) explained that environmental awareness, knowledge, and commitment, are necessary to achieve environmental protection and restoration. Madsen emphasized that the public must have a basic grasp of environmental 2problems. Leaders in the field of environmental education must not only have extensive knowledge and understanding of environmental problems, but must have environmental awareness to solve these problems. They must be committed "to initiate action, based upon knowledge and understanding" (Madsen, 1996, p.73). Ultimately, this process rests in the hands of well-educated communities that can train their new generations toward becoming responsible environmental citizens. Curriculum theorists, including John Dewey, have long advocated the solution of social problems, along with the development of responsible members of a democracy, as the Foundations of curriculum (Pinar, Reynolds, Slattery, & Tubman, 2000). Therefore, the role of education system is to assume this responsibility to

ensure that students also form part of the society to protect environment through their own ways in doing their responsibilities towards preservation of the natural environment.

The focus of the current study looked into the awareness of the students and employees on the different environmental issues and the perceived remedial measures. It is hoped that this will help remind us to integrate values of environment in College teaching and in making plans to enhance environment preservation.

RATIONALE

Environmental concerns entail awareness of the issues and problems by the people involved in the different communities of the country. It is very important therefore to let every sector be informed of the issues that can bring problems that affect the natural environment. .This study was designed to look into the problems on their awareness of the students and government employees on the environmental issues and the perceived remedial measures to be undertaken as a project of both the College and the concerned LGUs of Tabuk City. For this reason, the purpose the study sought answers to the following objectives.

OBJECTIVES

Environmental issues are indicators of problems that may hinder development of a community or a city. In this regard, this study aimed to find answers to the following problems as follows:

1. To determine if the two groups of respondents are aware of the environmental issues.

2. To find out the reasons why do the respondents are not fully aware of the environmental issues;

3. To determine what environmental issues do the two groups of respondents aware of;

4. To find out what are the actions or initiatives were taken by the government that the respondents aware of;

    4.1.1 There is no significant difference of the responses of the two groups of respondents on the actions or initiatives were taken by the government that the respondents aware of;

5. To determine what remedial measures can be further done to reduce environmental problems.

5.1 To determine if there is a significant difference between the responses of the two groups of respondents on what remedial measures can be further done to reduce environmental problems.

CONCEPTUAL FRAMEWORK

This study was based on the concepts of Republic Act No. 9512 – Environmental Awareness Education Act 8. The Department of Education (DepEd), the Commission on Higher Education (CHED), the Technical Education and Skills Development Authority (TESDA), the Department of Social Welfare and Development (DSWD), in coordination with the Department of Environment and Natural Resources (DENR), the Department of Science and Technology (DOST) and other relevant agencies, shall integrate environmental education in its school curricula at all levels, whether public or private, including in barangay daycare, preschool, non-formal, technical vocational, professional level, indigenous learning and out-of-school youth courses or programs. Environmental education shall encompass environmental concepts and principles, environmental laws, the state of international and local environment, local environmental best practices, the threats of environmental degradation and its impact on human well-being, the responsibility of the citizenry to the environment and the value of conservation, protection and rehabilitation of natural resources and the environment in the context of sustainable development.

As stated in the law that the education sectors in coordination with other concerned sectors of the LGUs should work hand in hand to value our natural environment resources in order to protect and sustain the state from any environment problems that can cause death and poverty among people.

According to study of J. Arunkumar (2012) on Assessment of Environmental

Awareness Among Teacher Trainees In Teacher Training Institutes, the result of the study revealed that the teachers have average level on environmental awareness. An average level of awareness on environment is seems disappointing to note. Despite that the teachers should be the first ones to have high level of awareness than the other sectors or group of society.

The study of Prashant Kumar Astalin On A Study Of Environmental Awareness Among Higher Secondary Students And Some Educational Factors Affecting It(2011).The findings of the present study reveal that teachers should sustain their attitude about look for the

positive development in the students of belonging to different parent's educational group rather than the acquisition of bookish information. Educational policy maker should be reformed the curriculum offered in the arts and science stream books. The curriculum offered in UP board schools should also be changed according to CBSE schools system. So UP Board students can deeply study with their interest and simple way. Various activities related to environmental education like essay writing, mime etc. can be arranged in schools. Organizing awareness campaigns about environment related social issues in rural areas. Environmental education should be introduced as a separate unit in the higher secondary level with an infused approach of teaching.

METHODS AND PROCEDURES

The study made use of survey method to conduct assessment of the global environmental issues awareness and the perceived remedial measures. This study was conducted to the City of Tabuk which includes the College Students, Graduate Students, the City Government Employees, and the Provincial government employees , in October 2014.

 Population of the Study

Categories	Samples
College Students	90
Graduate Students	30
City gov. employees	30
Provincial gov. employees	160

The population of this study includes 160. It composed of 90 College students of Dagupan, Tabuk City from KASC and C/ACT and 30 Graduate Students of KASC, 15 employees of the City Office and 15 employees of Provincial offices.

 Respondents

The 160 respondents of this study were grouped into students and the government employees. The simple random sampling was used to determine the samples from each group of respondents.

Validity of Instrument

The instrument used to gather the data adopted the survey questionnaire taken from the study of Ernesto Lasso De Lavega entitled" Awareness, Knowledge, And Attitude About Environmental Education,(1989). "Since the instrument was not revised, it is considered reliable and valid.

The set questionnaire consists of the questions on awareness, reasons from not being fully aware of the issues, the environmental issues which the respondents are aware of, the actions taken by the government to control the environmental issues, and the remedial measures to be undertaken to control the environmental problems/ issues.

Treatment of Data

The responses gathered in this study were presented in tabular form showing the frequency distribution with the corresponding ranks.

STATISTICAL TOOLS

To analyze and describe the data, the frequency counts and ranks were used. The correlation and t-test was used to compare the significant relationship of the responses of the two groups of respondents in this study.

RESULTS AND DISCUSSIONS

The results of the study are presented and discussed below to answer the problems stated in the survey:

Table 2 presents the responses of the two groups of respondents on the whether they are aware of the environmental issues or not

A.Asked if the respondents are aware of the environmental issues	Students N=130	Employees	Total	Percent
Yes	112	24	136	85
No	18	5	23	14
No answer	3	1	4	1
Total	130	30	160	100

Table 2 reflects that of the total respondents surveyed on whether they are aware of the environment issues , 136 or 85 % of the 160 respondents claimed "yes" while 23 or 14 % of them said "no" and only 4 or 1 % of them did not answer the question.. One hundred twelve of the students said that "yes" and only 18 said "no. "However there were 3 of them did not respond at all. On the other hand, 24 employees out of 30 surveyed claimed a "yes" answer while only 5 or 14% of them said "no "but there is one who did not respond at all. With this result, it can be said the most of the respondents are aware of the environmental issues.

Table 3 presents the responses of the two groups of respondents when asked if they are not fully aware of the environmental issues, what the reasons behind unawareness are.

B. Asked if the respondents are not fully aware of the environmental issues, what are reasons behind unawareness	Students n=67	Rank	Employees N=8	Rank
Lack of education	49	4	1	7
Lack of environmental education	50	3	7	2
Poverty	38	5	4	4
Lack of government initiatives to make people aware	56	2	6	3
Insufficient role of media/public forum	27	7	8	1
Lack of resources	63	1	2	6
Unemployment	33	6	4	4
Others: Please specify	6	8	1	7

Table 3 displayed that some of student-respondents claimed that they are not fully aware of the environmental issues due to the ranked reasons: lack of resources, lack of government initiatives to make people aware, lack of environmental education and lack of education. On the other, some of the employee- respondents claimed that they are not fully aware of the environmental issues due to the following reasons as follows in order: Insufficient role of media/public forum, lack of environmental education, lack of government initiatives to make people aware, and poverty. This result implies that the government units and the education sectors should take the first step to resolve the reasons issue of unawareness on the environmental issues by some people of the communities as shown in the result of the survey.

Table 4 presents the responses of the respondents when they were asked what are the Environmental Issues that the respondents are aware of?

C. Asked if what are the Environmental Issues that the respondents are aware of	Students	Rank	Employees	Rank
Air Pollution	116	1	28	1
Water Pollution	104	2	26	3
Sound Pollution	75	5	17	6
Deforestation	89	3	27	2
Loss of Biodiversity	69	6	19	5
Depletion of Ozone Layer	88	4	22	4

As seen in the table, the student- respondents claimed that they are most aware of the following issues as ranked in order: Air pollution, water pollution, deforestation, and

depletion of Ozone layer. While the employee-respondents said that they are most aware of the following environmental issues as ranked in order: Air pollution, deforestation, water pollution, and depletion of Ozone layer. Generally, both of the respondents said that they are most aware on air pollution issue . Sound Pollution issue was ranked fifth by the students and the issue on loss of biodiversity was ranked fifth by the employee-respondents. The results show that the aforementioned issues are also becoming serious problems now days. It is therefore a must for the concerned sectors to take note of the possible solutions to the problems.

Table 5 presents the responses of the respondents if what are the initiatives or measures taken by the government in the City or in your locality

D.Asked if what are the initiatives or measures taken by the government in the City or in your locality	Students	Rank	Employees	Rank
Social forestry	72	4	12	4
Agriculture fair	73	3	14	2
Sanitation programs	77	2	23	1
Mobile film show	22	10	3	8
Anti-smoking law	79	1	13	3
Prohibition of using Poly bag (plastic bags)	60	5	8	5
Introducing CNG Vehicles (Natural gas vehicles)	38	7	4	7
Cancellation of two stroke engine	23	9	8	5
Adoption of pest control policy	36	8	7	6
Solar electric project	47	6	7	6
Others:	1	11	4	7

Table 5 displayed that the student-respondents claimed that the following top 5 initiatives by the government and are ordered as follows: Anti-smoking law, sanitation program, agriculture fair, social forestry, and prohibition of using poly bag. On the other hand , the employee-respondents said that the government have initiated at least 5 solutions to environmental issues such as sanitation program, agriculture fair, anti-smoking law, social forestry, and Prohibition of using Poly bag (plastic bags). Based on result of the responses of the two groups of respondents, they have observed that the mentioned 5 actions or steps are the ones commonly practiced by the government.

 This indicates that the other steps which are not well implemented and considered should be looked further to be undertaken by the concerned government and private sectors.

Table 6 presents the Correlation of the responses of t he two groups on the initiatives taken

by the government to control environmental issues and problems

Test	Computed Value	Critical Value	Interpretation
Correlation	0.79		High positive relationship
T-test	3.71	1.83	Significant at .05

The table reveals that the compute correlation is 0.79 which is described as high positive

relationship with t-test computed of 3.71 which is greater than the t-critical value of 1.83.

This indicates that the hypothesis states that there is no significant difference between the

responses of the two groups of respondents on the actions taken by the government to

control environmental issues is rejected. Therefore, it implies that there is significant

difference between the responses of the two groups of respondents on the actions taken by

the government to control environmental issues.

Table 7 presents the responses of the two groups of respondents on what remedial

measures should be taken to prevent environmental problems

E. Asked if what remedial measures should be taken to prevent environmental problems	Students	Rank	Employees	Rank
Efficient public awareness	102	1	26	1
Enhance the promotion and development of New Energy Saving Technologies	79	5	19	4
Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles	93	2	21	3
Promote Efficiency of Distribution System Nationwide to minimize traffic issues	82	4	14	5
Promoting Urban Green Spaces	85	3	22	2
Others: Waste Segregation policy Clean and Green Contest Establishment of Sanitary Land fill More budget for programs/projects undertaken to control environmental issues	3	6	4	6

In the table, it can be glanced that the student-respondents recommended at least top 3

remedial measures to be considered and as ranked as follows: Efficient public awareness,

Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles, Promoting

Urban Green Spaces, and the last two are Promote Efficiency of Distribution System

Nationwide to minimize traffic issues .While the employee-respondents considered the

following remedial measures such as : Efficient public awareness, Promoting Urban Green Spaces, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles , Enhance the promotion and development of New Energy Saving Technologies, Promote Efficiency of Distribution System Nationwide to minimize traffic issues and suggested other measures to be considered like : Waste Segregation policy, Clean and Green Contest, Establishment of Sanitary Land fill, More budget for programs/projects   undertaken to control environmental issues. This indicates that there are lots to be done in order to control environmental issues and problems.

Table 8 presents the Correlation of the responses of t he two groups on the remedial measures to control environmental issues and problems

Test	Computed Value	Critical Value	Interpretation
Correlation	0.94		Very High positive relationship
T-test	5.43	2.13	Significant at .05

As seen in the table that the compute correlation is 0.94 which is described as" very high positive relationship" with t-test computed of 5.43 which is greater than the t-critical value of 2.13. This connotes that the hypothesis states that there is no significant difference between the responses of the two groups of respondents on the remedial measures to control environmental issues is rejected. Therefore, it concludes that there is significant difference between the responses of the two groups of respondents on the remedial measures to control environmental issues.

SUMMARY OF FINDINGS

The results of the survey are summarized as follows :a) the total respondents surveyed on whether they are aware of the environment issues , 136 or 85 % of the 160 respondents claimed "yes" while 23 or 14 % of them said "no" and only 4 or 1 % of them did not answer the questions ;b) the student-respondents claimed that they are not fully aware of the environmental issues due to the ranked reasons: lack of resources, lack of government initiatives to make people aware, lack of environmental education and lack of education. On the other, some of the employee- respondents claimed that they are not fully aware of the environmental issues due to the following reasons as follows in order: Insufficient role of media/public forum, lack of environmental education, lack of government initiatives to

make people aware, and poverty ;c) the student- respondents claimed that they are most aware of the following issues as ranked in order: Air pollution, water pollution, deforestation, and depletion of Ozone layer. While the employee-respondents said that they are most aware of the following environmental issues as ranked in order: Air pollution, deforestation, water pollution, and depletion of Ozone layer. Generally, both of the respondents said that they are most aware on air pollution issue; d) the student-respondents claimed that the following top 5 initiatives by the government and are ordered as follows: Anti-smoking law, sanitation program, agriculture fair, social forestry, and prohibition of using poly bag. On the other hand , the employee-respondents said that the government have initiated at least 5 solutions to environmental issues such as sanitation program, agriculture fair, anti-smoking law, social forestry, and Prohibition of using Poly bag (plastic bags);e) the compute correlation is 0.79 which is described as high positive relationship with t-test computed of 3.71 which is greater than the t-critical value of 1.83. This indicates that the hypothesis states that there is no significant difference between the responses of the two groups of respondents on the actions taken by the government to control environmental issues is rejected. Therefore, it implies that there is significant difference between the responses of the two groups of respondents on the actions taken by the government to control environmental issues; f) that the student-respondents recommended at least top 3 remedial measures to be considered and as ranked as follows: Efficient public awareness, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles, Promoting Urban Green Spaces, and the last two are Promote Efficiency of Distribution System Nationwide to minimize traffic issues .While the employee-respondents considered the following remedial measures such as : Efficient public awareness, Promoting Urban Green Spaces, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles , Enhance the promotion and development of New Energy Saving Technologies, Promote Efficiency of Distribution System Nationwide to minimize traffic issues ;and g) the compute correlation is 0.94 which is described as" very high positive relationship" with t-test computed of 5.43 which is greater than the t-critical value of 2.13. This connotes that the hypothesis states that there is no significant difference between the responses of the two groups of respondents on the remedial measures to control environmental issues is rejected. Therefore, it concludes that there is significant

difference between the responses of the two groups of respondents on the remedial measures to control environmental issues.

CONCLUSION

From the findings of this study, it be confirmed that: the respondents are aware of the environmental issues but may be they are not fully aware of the issues due to insufficient role of media/public forum, lack of environmental education, lack of government initiatives to make people aware. On what they are most aware, both the responded that they are most aware of the following environmental issues/ problems such as air pollution, deforestation, water pollution, and depletion of ozone layer. The respondents said that the following actions were taken by the government to control the environmental issues such as sanitation program, agriculture fair, anti-smoking law, social forestry, and Prohibition of using Poly bag (plastic bags). The correlation showed that there is significant difference between the responses of the two groups of respondents on the actions taken by the government to control environmental issues

It can also be concluded that the following remedial measures like : Efficient public awareness, Promoting Urban Green Spaces, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles , Enhance the promotion and development of New Energy Saving Technologies, Promote Efficiency of Distribution System Nationwide to minimize traffic issues are to be considered. Based on this, the correlation showed that there is significant difference between the responses of the two groups of respondents on the remedial measures to control environmental issues.

RECOMMENDATION

1. Conduct public forum, initiate environmental education to all levels, the government should initiate to make people aware and poverty should be minimize through government supports for livelihood programs and if possible free education with stipend to the poor families;

2. The concerned government agencies should also considered to undertake high implementation level of the different environmental programs to minimize environmental issues and problems;

3. Remedial measures like: Efficient public awareness, Promoting Urban Green Spaces, Enhance the promotion of Clean Energy Vehicles and high efficiency vehicles ,

Enhance the promotion and development of New Energy Saving Technologies, Promote Efficiency of Distribution System Nationwide to minimize traffic issues are to be seriously considered.

REFERENCES

1. Ernesto Lasso De Lavega,(1989).Awareness, Knowledge, And Attitude About Environmental Education: Responses Fromenvironmental Specialists, High School Instructors,Students, And Parents. A Dissertation. University of Central Florida.

2. Zarrintaj Aminrad1 ,(2010)Survey on Environmental Awareness among Environmental Specialists and Secondary School Science Teachers in Malaysia.National University of Malaysia,Universiti Malaysia Sabah, Malaysia

3. https://books.google.com.ph/books?isbn=0309068509, William Albert Hyman, Donald Vary - 1999 - Best management practices

4. (Pollution prevention) lorenlegarda.com.ph/republic-act-no-9512-environmental-awareness

5. www.lawphil.net/statutes/repacts/ra2008/ra_9512_2008.htm

6. www.sunstar.com.ph › Baguio › Local News

7. www.earthsharing.org/EnvironmentIssues