

Knowledge of Undergraduates on Government Interventions in Environmental Issues in Southwest, Nigeria

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ABSTRACT: *This study examined the knowledge of undergraduate on government interventions in environmental issues in Southwest, Nigeria. This examined the differences in the knowledge of undergraduates on government interventions in environmental issues in Southwest, Nigeria based on gender and ownership of University. Descriptive survey research design was adopted for the study. The population of the study comprised all university undergraduates in Southwest, Nigeria. A sample of 1752 male and female Undergraduates in Federal, State and Private Universities were used for the study. Multistage sampling procedure was employed for the sample selection. Undergraduates' Knowledge on Government Interventions in Environmental Issues Test (UKGIEIT) was used to collect data for the study. The validity of the instruments was ensured through face and content validity procedures and the reliability of the UKGIEIT was established using test-retest method. The alpha value of 0.70 was obtained this was considered high and reliable enough for the study. The data generated for this study were analysed using descriptive and inferential statistics. The descriptive statistics of frequency counts, mean and percentages were used to provide answers to the research question while inferential statistics of t-test and Analysis of Variance (ANOVA) were used to test the hypotheses at 0.05 level of significance. The level of undergraduates' knowledge of government interventions in environmental issues was moderate, there was a significant difference in the knowledge of male and female undergraduates towards government interventions in environmental issue and that there was no significant difference in undergraduates' knowledge of government interventions in environmental issues based on the ownership of University. Based on the findings of this study, it was recommended that university management should intensify effort on environmental education programmes so as to provide students with comprehensive knowledge of government interventions in environmental issues irrespective of their gender.*

Keywords: knowledge, undergraduates, government interventions, environment, environmental issues

INTRODUCTION

The value of environment to the existence of mankind cannot be overemphasized. The environment is the life support system given by the Creator to mankind. Sometimes in the past, the three basic components of the environment -air, soil and water were adjudged to be pure, virgin, undisturbed, uncontaminated and basically most hospitable, but it appears the reverse is the case in recent times. According to Sharma (2002), man's activities as a result of advancement in Science and technology seem to contribute tremendously to environmental degradation and serious ecological imbalance, which in the long run, may prove disastrous for mankind. Rapid industrialization has left with us polluted rivers, contaminated soil, depleted wildlife and exhausted natural resources. As a result, the environment of today has become foul, contaminated and harmful for the health of living organisms, including man.

Environmental issues are harmful effects of human activity on the biophysical environment. The UN Office for the Coordination of Humanitarian Affairs OCHA, (2017) stated that the environmental destruction caused by humans is a global problem that is ongoing every day. Major current environmental issues may include climate change, erosion, flooding, deforestation, pollution, environmental degradation and resources depletion.

Government intervention in the environmental issues is the act of environmental protection. Environmental protection is a practice of protecting the natural environment on individual, organizational or governmental levels, for the benefit of both the environment and humans. Environmental protection is a practice of caring for the environment, on individual, organizational or governmental levels, for the benefit of the natural environment and future generations. The practice of taking care of the environment is not restricted to the government or to corporate organizations alone, individuals and communities at various levels are also expected take responsibilities for the environment in order to sustain it for the present and for the future generations. (Akinlade. 2024). According to Eccleston and March (2010), environmental issues are harmful effects of human activity on the biophysical environment. Environmental degradation has emerged as a serious issue in the world today. According to Meinhold and Malkus (2005), the world is now alarmed with various environmental problems, such as climate change, ozone layer depletion, global warming, and so on. Many of these problems are the result of irresponsible environmental behaviour, which is highly influenced by the attitudes people possess. Nigeria is not without her own complex environmental issues that had also resulted in environmental degradation and has endorsed the education for sustainable life.

Generally speaking, knowledge is considered the foundation of all aspects of life, including how to protect our environment from life-threatening environmental hazards. Knowledge is the awareness or familiarity gained by experience of a person, fact, or thing. This implies that

knowledge can be acquired through experience. Meanwhile, knowledge may be defined as the information that is organized, synthesized or summarized to enhance comprehension, awareness or understanding. Conventionally, knowledge is the beliefs that are true and are justified. It is also seen as information combined with experience, context, integration, reflection, intuition and creativity (Ajaps & Mclelanlan, 2015). The knowledge of people appears to affect the safety effectiveness, comfort and satisfaction with which the goals of an individual are formulated and attained. It is assumed that knowledge of something provides orderliness to lives which allows someone to conceptualize goals, to anticipate and perceive event and responds in accordance with changing needs, purpose and desires.

An individual attitude appears to depend on the knowledge that has been acquired through learning, practice and experience as well as the sensory receptors. Knowledge tends to have influence on perception and attitude. Undergraduates could differ in their knowledge of environmental protection policies. Essentially, university undergraduates are expected to be informed and understand the risks that come with population growth, industrial and technological development. It is also beneficial to gain knowledge on how to protect the environment from the expected and accidental hazards of various human activities on the planet. Consistent with the above view, Nneji (2013) asserted that knowledge about environmental issues is considered a prerequisite for meaningful environmental-friendly behaviour, and its dissemination is considered a key component and standard for the successful implementation of environmental protection laws (environmental education programs). Students' knowledge on environmental issues are very essential in creating environmental friendly and sustainable development in the society. Environmental knowledge includes an understanding of problems/issues caused as a result of human interaction with the environment. And also included within this category is knowledge and understanding, related to alternative solutions to issues and to major sources of environmental information.

Ezeudu, et al (2016), attempted to increase students' knowledge on environmental issues in secondary schools. For example, climate and general environmental related contents like our environment, physical environment, sanitation, pollution, natural and manmade environmental hazards, deforestation, population, effects of industrial concentration, composition of atmospheric gases, weather and climate, classification of climate, major climate types of the world, were infused in most secondary school subjects like Geography, Chemistry, Physics, Biology, Agriculture, and Social Studies. These contents and subjects are veritable means of promoting environmental education of secondary school students in Nigeria.

In addition, Ishaya and Abaje (2008) noted that secondary school teachers have been inculcating climate change contents infused into their respective subjects to the students with the intention of increasing their knowledge of climate change. Againde (2006) added that schools through classroom instructions are making effort to create awareness on major environmental problems.

Similarly, Chinedu (2008) and Ofoebe (2009) shared the view that the curriculum contents of most secondary school subjects could be effectively used to promote awareness of environmental problems. The adequate knowledge of the students about the various interventions put up by government and her agencies for controlling environmental issues will promote environmental sustainability, suitable for human living in Southwest, Nigeria. Despite the growing scientific knowledge and public awareness about the severity of environmental issues, there remains a lack of consensus regarding people's knowledge on government interventions in environmental issues. It is observed that undergraduates, often unknowingly, contribute significantly to environmental degradation through their daily activities, leading to various forms of environmental threats.

Evidence of inadequate knowledge on government interventions in environmental issues among undergraduates can be observed in their reactions, particularly in public places in the Southwest region of Nigeria.

Hackman, et al., (2014) defined gender as social roles that men and women play and the power relations between them. Gender relations influence how communities, household and institution are organised, how decisions are made and how resources are utilised. It was observed that gender is an important factor that may influence the knowledge of students about environmental protection policy. This is attributed to the difference between general characters of females and males. The females appear to be more delicate than males and females seem to pay more attention to environmental changes than the males. Males and females may see many issues completely differently. According to the study of Ekeziel (2010) to investigate gender and knowledge of government interventions on environmental issues reveals that females exhibit a closer connection to the environment compared to their male counterparts. Specifically, statistics indicate that approximately 70% of women rely on forests for food generation, whereas only 40% of men engage in similar practices.

Furthermore, university type could also affect undergraduates' knowledge on the Government interventions in environmental issues. University type according to NERDC, (2013) is the grouping of the university based on the ownership. These are the Public and private universities. Public Universities in Nigeria were established and managed by the Government. The public Universities have continually dominated the higher education landscape in Nigeria for several decades.

The ownership of university might be a factor that will determine the knowledge of students on government interventions in environmental issues in southwest Nigeria. This may be due to the exposure of the undergraduates in each of the types of university to information, their level of awareness of government policies etc. Unlike Private Universities, Public Universities are located across the country; each state in the country can boast of a University. Public Universities are cheaper, affordable for students across the country and has different courses which may not be

available in the private Universities. The public universities are grouped into Federal and state universities. The Federal Government of Nigeria founded the Federal Universities, and they are strategically located across the country to give access to Education while the state universities are universities founded by the State Government. The private universities are universities owned by private individuals, religious organisations, companies and communities. Private Universities are non-public or independent universities, solely owned, financed and managed by private individuals, denominational or secular boards; often they are operated for profit.

Purpose of the Study

This study generally examined the knowledge of undergraduates on government interventions in environmental issues in Southwest, Nigeria. This study also:

- examined the level of knowledge of undergraduates on government interventions in environmental issues;
- examined the differences in the knowledge of undergraduates on government interventions in environmental issues based on gender and ownership of university.

Research Question

One research question was raised to guide this study:

What is the level of knowledge of undergraduates on government interventions in environmental issues?

Research Hypotheses

Two research hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant difference between knowledge of male and female undergraduates on government interventions in environmental issues.
2. There is no significant difference in knowledge of undergraduates on government interventions in environmental issues based on the ownership of University.

RESEARCH METHOD

The descriptive research design of the survey type was adopted for this study. The population of the study consisted of 872,100 undergraduates (male and female) in the 17 public and 27 private Universities in Southwest, Nigeria (NUC, 2023). The sample of this study consisted of 1752 undergraduates who were selected using multistage sampling procedure. The first stage involved the use of a simple random sampling technique to select three out of the six states that made up Southwest, Nigeria, the states are Ogun, Oyo and Ekiti. The second stage involved the use of stratified random sampling technique to select three Universities in each of the states using forms of ownership of Universities as basis for stratification, (one federal, one state and one private). The last stage involved the use of proportional random sampling technique to select undergraduates from each of the Universities. One instrument designed by the researcher was used to collect data for this study. This instrument was tagged 'Undergraduates' Knowledge of Government Interventions in Environmental Issues Test' (UKGIEIT) Undergraduates' Knowledge of

Government Interventions in Environmental Issues Test' (UKGIEIT) consisted of 15 objective questions that tested undergraduates' knowledge of government interventions in environmental issues. The face and content validity of the instrument was ensured while the reliability of the instrument was established using test-retest method and the reliability coefficient of 0.70 was obtained. The data collected were analysed using descriptive and inferential statistics. The research questions were answered descriptively using frequency counts, means, standard deviation and percentages. The hypotheses were tested using inferential statistics such as ANOVA while all the hypotheses were tested at 0.05 level of significance.

RESULTS

Question

What is the level of knowledge of undergraduates on government interventions in environmental issues?

To determine the level of undergraduates' knowledge of government interventions in environmental issues (low, moderate and high), the mean score and standard deviation, frequency counts and percentage were used to analyse respondents' scores of the QKUGIEI. The low level was determined by subtracting the standard deviation score from the mean score ($10.81 - 2.421 = 8.39$). The moderate level was determined by the mean score (10.81) while the high level was determined by adding the means score and the standard deviation score ($10.81 + 2.421 = 13.23$).

Therefore, the low level of undergraduates' knowledge of government interventions in environmental issues starts from 0 to 8.39, the moderate level starts from 8.40 to 13.22 and the high level is from 13.23 to 15. The level of undergraduates' knowledge of government interventions in environmental issues is presented in table 1.

Table 1: Level of undergraduates' knowledge of government interventions in environmental issues

<i>Level of Undergraduates' Knowledge</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Low (0 – 8.39)	309	17.70
Moderate (8.40-13.22)	1284	73.70
High (13.23 - 15)	150	8.60
Total	1743	100

The results in Table 1 present the level of undergraduates' knowledge of government intervention in environmental issues. The result shows that out of 1752 respondents sampled, 309 representing 17.70% had low level of knowledge while 1284 representing 73.70% had moderate level and 8.60% had high level of knowledge. This showed that the level of undergraduates' knowledge of government interventions in environmental issues was moderate. Thus, the overall knowledge of participants was considered moderate.

Hypothesis 1: There is no significant difference between knowledge of male and female undergraduates on government interventions in environmental issues. To test this hypothesis, scores on male and female undergraduates' knowledge of government interventions in environmental issues in Southwest, Nigeria were collated and subjected to t-test. The result is presented in Table 2.

Table 2: t-test showing difference in the knowledge of male and female undergraduates on government intervention in environmental issues

<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>df</i>	<i>t_{cal}</i>	<i>P-value</i>
Male	732	10.28	2.514	1750	7.655*	0.000
Female	1020	11.17	2.296			

$P < 0.05$

The result in table 8 shows that $t_{cal} = 7.655$; $P = 0.000 < 0.05$. Since the P value is less than 0.05, therefore, the null hypothesis is rejected. This implies that there is significant difference in the knowledge of male and female undergraduates on government interventions in environmental issues

Hypothesis 2: There is no significant difference in knowledge of undergraduates on government interventions in environmental issues based on the ownership of University.

To test this hypothesis, scores on undergraduates' knowledge of government interventions in environmental issues in Southwest, Nigeria based on forms of ownership were collated and subjected to ANOVA. The result is presented in Table 3.

Table 3: ANOVA showing difference in undergraduates' knowledge of government interventions in environmental issues in Southwest, Nigeria based on forms of ownership of university

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>P-value</i>
Between Groups	8.922	2	4.461		
Within Groups	10204.307	1749	5.865	0.761	0.468
Total	10213.229	1751			

$P > 0.0$)

Information contained in table 12 shows that $F_{cal} = 0.761$; $P = 0.468 > 0.05$. Since the P value is greater than 0.05, therefore, the null hypothesis is accepted. This implies that there is no significant difference in undergraduates' knowledge of government interventions in environmental issues based on the ownership of University.

DISCUSSION

Finding of this study revealed that the level of undergraduates' knowledge of government interventions in environmental issues was moderate. The moderate level of knowledge among undergraduates regarding government efforts to address environmental issues underscores a significant awareness gap. This gap implies that many students remain uninformed about the diverse array of initiatives and policies aimed at environmental protection. It highlights a pressing need for improved education and communication strategies within universities and educational institutions.

Enhancing curricula and teaching methods to impart a better understanding of government interventions in environmental matters is essential. Moreover, this gap also indicates a potential lack of civic engagement and awareness among students about their roles as environmental stewards and active citizens. By empowering students with knowledge, they can become more engaged in advocating for and supporting environmental initiatives, as well as holding government officials accountable for their environmental actions. In essence, addressing this awareness gap is crucial for fostering policy advocacy and promoting stronger environmental policies. Several factors contribute to this gap, including the curriculum's limited coverage of environmental topics, the absence of dedicated environmental courses in some institutions, insufficient government efforts in disseminating information effectively, competing academic priorities, and a lack of active engagement between government agencies and educational institutions, all of which need to be addressed to bridge this knowledge gap effectively.

This study was in line with Johnson and Brown (2018) who found that a varying level of knowledge among the students, with some demonstrating a strong grasp of government interventions, while others exhibited gaps in their understanding. Factors such as educational background, exposure to environmental issues, and participation in environmental programs were found to influence the level of knowledge among undergraduates. Also, Chen, Chen, & Lin, (2016)

who found that students who had participated in environmental education programs had a higher level of knowledge regarding government interventions in environmental issues. This suggests that targeted educational initiatives can effectively improve undergraduates' understanding of government actions and policies in relation to the environment.

The finding of the study revealed that there is significant difference in the knowledge of male and female undergraduates on government interventions in environmental issues. The significant difference in the perception of male and female undergraduates on government interventions in environmental issues implies that gender plays a role in how individuals view and interpret government actions related to the environment. The indicated that there is a significant difference in the knowledge of male and female undergraduates on government interventions in environmental issues indicates that gender may influence individuals' awareness and understanding of these interventions. This finding aligns with previous research that has examined gender differences in environmental knowledge. For example, a study by Li, Xiong and Yang (2016) investigated gender differences in environmental literacy among university students in China. The results revealed that females had higher levels of environmental knowledge compared to males. Another study by Chen, Fan, Wu and Lin (2018) explored gender differences in environmental awareness and knowledge among undergraduate students in Taiwan. The findings showed that females exhibited greater environmental awareness and had higher levels of environmental knowledge than males.

The finding of the study revealed that there is no significant difference in undergraduates' knowledge of government interventions in environmental issues based on the ownership of University. The significant difference in undergraduates' knowledge of government interventions in environmental issues based on the ownership of the university implies that the type of university (public or private ownership) does not appear to be a determining factor in the level of students' knowledge regarding government actions related to the environment. This consistency is positive in terms of providing equal access to environmental knowledge, but it also highlights the importance of continuous efforts to improve and enhance environmental education in all types of higher education institutions. This study is in line with Ezeudu, et al (2016) who stated that public schools are relatively large, dense and groups of socially heterogeneous individuals. Public universities have some characteristics – a large and heterogeneous population, but less educational facilities.

CONCLUSION

Based on the findings of this study, it was concluded that the study underscores the existence of a moderate level of knowledge among undergraduates, highlighting the need for improved environmental education and communication strategies.

Gender differences in knowledge also emerge as significant factors, emphasizing the importance of considering gender-sensitive approaches in environmental policies and education.

Recommendations

Based on the conclusion, it was recommended that:

University management should intensify effort on environmental education programs so as to provide students with comprehensive knowledge of government interventions in environmental issues irrespective of their gender.

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