

Causes and Impact of Environmental Degradation as Perceived by Social Studies Trainee-Teachers in University of Ilorin, Nigeria

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Abstract

This paper presented empirical evidence on the causes and impact of environmental degradation using the perception of Social Studies trainee-teachers in University of Ilorin, Kwara State, Nigeria. The study adopted a descriptive survey research type with a sample of 180 Social Studies Students drawn from the 2016 Contact Session of the Sandwich Programme of the Institute of Education, University of Ilorin, Kwara State through a purposive sampling technique. A 16-item researchers' designed questionnaire was developed and was subjected to face and content validity by experts in the Department of Social Sciences Education, University of Ilorin, Kwara State. The instrument for data collection was a questionnaire titled "Causes and Impact of Environmental Degradation Questionnaire (CIEDQ)" which was trial-tested on trainee-teachers outside of the sample using a split-half method. The two set of scores were correlated using Crombach-Alpha which yielded a reliability co-efficient of 0.86. Arithmetic Mean was used to answer the research questions without a corresponding hypothesis at an acceptable threshold of 2.50 while the null hypothesis was tested with the use of t-test statistic at 0.05 level of significance. From the results presented, it was recommended among others that; the teaching of environmental pollution/degradation and environmental studies in Social Studies curriculum at all levels of the education system should be intensified with all the seriousness it deserves so that the young population would be intellectually equipped to respond to issues arising from the exploitation and exploration of the physical environment.

Keywords: Causes, impact, environmental, and trainee-teachers, perception.

Introduction

The physical environment consisting of the atmosphere (air), lithosphere (land), and hydrosphere (water) components are all given by nature for the survival of humanity and other living creatures. In other words, the dynamic relationship between man and his physical environment ought to be symbiotic and balanced such that while the physical environment consistently provides life support for humans and other living organisms, the environment ought also to enjoy the same measure of care, support and possible replacement by man. Over the years, the activities of man have proved that the air, the land and the seas are the only resource store house where all of man's needs are met without giving a thought for its sustainability (Ebong, 2003). In effect, the continuous exploitation and exploration of the resources within the physical environment by man without a corresponding care on it; is increasingly threatening the survival of man and other living organism by making them become more vulnerable to all forms of water and airborne diseases (Partha, 2008).

Little wonder, Miller (1998) argues that the reduction in environmental resources and its attendant decrease in the level of use by man can be said to be a manifestation of environmental degradation. On their part, Yaro, Okon

and Ukpali (2015) see the concept of environmental degradation as a situation where the vegetation, air, soil and the water components of the physical environment depreciates in quality and quantity. In other words, environmental degradation can also manifest in the form of ecosystem imbalance, land, water and air pollution (Global Policy, 2016). Thus, this paper considers environmental degradation to mean the constant erosion and depletion in quality and quantity of the blessings that God Almighty endowed the physical environment for the sole purpose of man's continual survival. Several causative factors have been implicated in the continuous erosion of the quality of air that man breath, the quality of land we cultivate and as well as the quality and quantity of water and the aquatic organisms that we exploit for a living.

Among the many causes that are often listed to play active role in environmental degradation are but not limited to overpopulation, poverty, point and non-point sources of pollution, cattle grazing, indiscriminate cutting of trees without corresponding replacement through aggressive tree planting, natural causes, oil spillages due to equipment failure, desertification, and so on. For instance, while the population of Nigeria continues to grow in a geometric progression; the air, land and water resources available for use by the ever-growing population remain the same. In view of this, Botkin and Keller (1998) argued that the frequent damages done to the environment can be blamed on the large human population occupying the physical environment. This point also reflected in the views expressed by Iwejingi (2011), Skye (2012), Olaniyi, Ojekunle and Anuijo (2013) who separately maintained that the ever-growing human population with its attendant activities have mounted much pressure on the limited resources housed within the physical environment thereby causing degradation and harm to human health.

Another major cause of environmental degradation according to John (2009) is what could be referred to as point and non-point sources of pollution. According to him, point sources of pollution are those pollution generated from a fixed or stationery facilities or location that are traceable. Examples of point source pollution include chemicals coming out from pipelines, oil spills due to equipment failure or vandalism and smoke or gas flaring from factories and gas stations. Against this backdrop, Worgu (2000), Etuonovbe (2009), Nnaji (2012) all alluded to the fact that the frequent oil spillages and gas flaring in the Niger Delta region account for the lots of damages (degradation) done to the air, land and water resources with enormous health implication on the human population in the region.

On the other hand, non-point source pollution is more frequent than point source pollution and is the type of pollution that is responsible for harming most of the aquatic creatures in the rivers and other waterway channels which make it difficult to track its origin or source. The pollutants are carried off the land by storm. Common examples of non-point sources are agricultural runoffs, forestry, urban development, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets (John, 2009; Skye, 2012). Similarly, natural sources like tsunami, storm, wildfire, hurricane, landslides and earthquakes have been found to contribute in no small measure to environmental degradation in most parts of the world in the sense that their occurrence always leave behind devastating effects by completely decimating plants and animals in their local habitats to the point where proper functioning and existence is no longer possible (Skye, 2012).

Again, the ever-increasing effects of global warming and climate change cannot also be exonerated in the global debate of environmental degradation. For example, both qualitative and quantitative research have shown clearly that there is a strong correlation between climate change and the continued decimation of plants and animals, and displacement of human settlements through drought, flooding, excessive heat waves, heavy in-season and off-season rainfalls, etc. Empirically, Apata (2011), Olaniyi, Ojekunle and Anuijo (2013) asserted that climate change has not only exerted profound effect on agricultural productivity and food security in Nigeria such that farmlands no longer yield bountiful harvests in spite of improved seedlings and other agricultural inputs but that the Nigeria's ecosystem has greatly been affected as a result of the damaging effects of climate change.

In another dimension, Chukwu(2008) established a nexus between poverty and environmental degradation in Nigeria by stating that most of the environmental related problems being witnessed today are poverty driven causes manifesting in deforestation, excavation and quarrying activities for example. Chukwu explained that when the vast majority of the human population are poor without steady means of livelihood, there is a tendency for them to resort to the indiscriminate and illegal felling of trees or lumbering and excavating the earth surface for commercial purposes. By so doing, the natural habitat of wildlife is not only taken away, but it further leads to the removal of valuable tree species, depletion of the ozone layer and desertification. Excavation and overgrazing by cattle also contribute to the fragility and destruction of the earth's crust, destruction of soil-related micro-organisms and erosion.

Ironically, while man has been identified as the major perpetrator of environmental problems through its various activities, he (man) alongside other living organisms like plants and animals are also seen to be the victims of the effects or impact of environmental degradation. For example, the socio-economic conditions of people are significantly affected due to environmental degradation. Indeed, the socio-economic means of livelihood of rural dwellers in most cases are also completely taken away due to environmental degradation (Udofia & Udom; 2011). In addition, Iwejingi (2011), Ogboru and Anga (2015) are of the opinion that the high number of air and water-borne diseases such as cholera, typhoid fever, etc. are direct consequences of environmental-related issues such as environmental degradation.

There is also a huge economic and security implication of environmental degradation in the sense that it costs a lot in terms of monetary value to remedy the effects of environmental degradation. For instance, the United Nations Environment Programme (UNEP) report released in 2011 indicates that over \$1 billion will be required within the first five years up to thirty years completion period to clean up the Ogoniland (in the Niger Delta region) devastated by the activities of oil multinationals operating in the area (Duru, 2014). Emmanuel (2014) posits that both the Nigerian society and its economy are negatively affected by the numerous effects of man's activities on the physical environment. In a similar vein, Fagbohun (2011) also argued that environmental issues such as deforestation, loss of biodiversity and other environmental related problems can seriously induce a threat to the security of a nation.

Interestingly, the fact that environmental issues are paramount concern to students of Social Studies and researchers in Social Studies Education it becomes crucial to sample the perception of Social Studies trainee-teachers on the causes and impacts of environmental degradation especially against the backdrop of Nigeria's renewed zeal and vigour to meet the recently agreed 2030 global achievement target of the Sustainable Development Goals (SDGs) using education as the most effective instrument. Thus, one of the main objectives of Social Studies is to enable the child to understand his social and physical environments (Ogundare, 1989). In line with this, Social Studies has been defined as the study of how man influences and is in turn influenced by his physical, social, political, religious, economic, psychological, cultural, scientific and technological environments (Adaralegbe, 1975). By the above definition, man is to ensure that he adapts and survives by exploiting and exploring his physical environment and not to destroy it. Social Studies, therefore, has the mandateto enlightening the young ones on the dangers of destroying the physical environment and how to preserve and sustain it.

Statement of the Problem

It must be acknowledged that there exists a considerable number of qualitative and quantitative research evidence of the causes and effects of environmental degradation on agricultural activities, biodiversity and ecosystem, socio-economic and health conditions of people in Nigeria and elsewhere. Examples of such research evidence could be found in the findings reported byWorgu (2000), Chukwu (2008), Etuonovbe (2009), Iwejingi (2011), Udofia and Udom (2011), Nnaji (2012), Duru (2014), Ogboru and Anga (2015), and Yaro, Okon, and Ukpali (2015).

However, there seems to be a research gap in the areas of geographic, sample, instrument and statistic scope. That is, none of these previous studies as highlighted focused on the perception of University of Ilorin Social Studies trainee-teachers on the causes and impacts of environmental degradation in Nigeria. This is in addition to the non-usage of the exact type of structured instrument and statistic that is being considered in this study by the previous researchers. It is on the strength of these identified gaps that this present study laid its very foundation.

Purpose of the Study

The primary purpose of the paper is to examine the perception of Social Studies trainee-teachers in University of Ilorin on causes and impact of environmental degradation in Nigeria. Specifically, the paper seeks to:

1. determine the major causes of environmental degradation in Nigeria using the perception of Social Studies trainee-teachers in University of Ilorin.
2. examine the impact of environmental degradation on sustainable environment in Nigeria as perceived by Social Studies trainee-teachers in University of Ilorin.
3. determine whether female and male Social Studies trainee-teachers in University of Ilorin differ significantly in their perception of the causes and impact of environmental degradation in Nigeria.

Research Questions

Three research questions were raised to guide the investigation.

1. What are the major causes of environmental degradation in Nigeria?
2. To what extent does environmental degradation impact on sustainable development prospects in Nigeria?
3. Do female and male Social Studies trainee-teachers in University of Ilorin differ in their perception of the causes and impact of environmental degradation in Nigeria?

Research Hypothesis

One research hypothesis was raised and tested in this study.

H₀₁: There is no significant difference between female and male Social Studies trainee-teachers perception of the causes and impact of environmental degradation in Nigeria.

Methodology

In collecting data for the study, the descriptive survey research type was adopted because of its potential of allowing the researchers to clearly assess respondents' opinions and perception toward the issues and situations under investigation (Ofo, 1994). The target population of this study comprised of all the Sandwich Social Studies students from the 2016 Contact Session of the Sandwich Programme of the Institute of Education, University of Ilorin, Kwara State; while a sample of 180 Social Studies students was drawn through a purposive sampling technique. A 16-item researchers' designed questionnaire was developed, and it was subjected to face and content validity by Test and Measurement experts in the Department of Social Sciences Education, University of Ilorin, Kwara State.

The instrument for data collection was a questionnaire titled "Causes and Impact of Environmental Degradation Questionnaire (CIEDQ)" which was trial-tested on trainee-teachers outside of the sampled school using a split-half method. The two set of scores were correlated using Cronbach-Alpha which yielded reliability coefficient of 0.86. Arithmetic Mean was used to answer the research questions without a corresponding hypothesis at an acceptable threshold of 2.50 while the null hypothesis was tested with the use of t-test statistic at 0.05 level of significance.

Results

Research Question 1: What are the major causes of environmental degradation in Nigeria?

Table 1: Mean Scores of Responses on the Causes of Environmental Degradation in Nigeria as Perceived by Social Studies Trainee-Teachers in University of Ilorin.

S/N	Items	\bar{X}	Decision	Rank
1.	Over population has mounted much pressure on the natural environment thereby causing degradation.	3.54	Accepted	3 rd
2.	Pollution generated from point and non-point sources is a major cause of environmental degradation in Nigeria.	3.29	Accepted	5 th
3.	Environmental degradation can also be caused naturally like storms.	3.35	Accepted	4 th
4.	The indiscriminate felling of trees without corresponding replacement through planting has contributed to deforestation.	3.54	Accepted	3 rd
5.	Incessant excavation of the earth surface is another cause of environmental degradation.	3.67	Accepted	1 st
6.	Environmental degradation is also caused by desertification.	3.13	Accepted	7 th
7.	Oil spillages due to equipment failure and pipeline vandalism.	3.57	Accepted	2 nd
8.	Frequent grazing on farmlands by cattle.	3.16	Accepted	6 th
	Grand Mean	27.25		

Table 1 shows the mean scores of responses on the causes of environmental degradation in Nigeria as perceived by Social Studies trainee-teachers in University of Ilorin. All the items had mean scores above the acceptable threshold of 2.50. Hence it follows that they all account for various degrees of environmental degradation in Nigeria. Based on rank, items 5, 7 and 1 were ranked 1st, 2nd and 3rd in their cause of environmental degradation in Nigeria.

Research Question 2: To what extent does environmental degradation impact on sustainable development prospects in Nigeria?

Table 2: Mean Scores of Responses on the Impacts of Environmental Degradation in Nigeria as Perceived by Social Studies Trainee-Teachers in University of Ilorin.

S/N	Items	\bar{X}	Decision	Rank
1.	Environmental degradation has negatively impacted on human health.	3.51	Accepted	1 st
2.	The tourism industry in Nigeria has been affected due to environmental degradation.	3.13	Accepted	8 th
3.	Environmental degradation has affected the economy of Nigeria.	3.40	Accepted	3 rd
4.	The ecosystem and its biodiversity have been lost due to environmental degradation.	3.22	Accepted	7 th
5.	Environmental degradation has also contributed the global effect of climate change in Nigeria.	3.31	Accepted	5 th
6.	Environmental degradation is contributing to wildlife extinction.	3.38	Accepted	4 th
7.	Human life is under threat due to the impact of environmental degradation.	3.41	Accepted	2 nd
8.	General developmental fortunes Nigeria is also hampered by the impacts of environmental degradation.	3.27	Accepted	6 th
	Grand Mean	26.63		

Table 2 shows the mean scores of responses on the impacts of environmental degradation in Nigeria as perceived by social studies trainee-teachers in University of Ilorin. All the items had mean scores above the acceptable threshold of 2.50. Hence it follows that environmental degradation has not only impacted negatively on human health of Nigerians, but the tourism, ecosystem, biodiversity and economy of Nigeria has also been battered by the effects of environmental degradation. Based on rank, items 1, 7 and 3 were ranked 1st, 2nd and 3rd respectively.

Hypothesis

Ho₁: There is no significant difference between female and male Social Studies trainee-teachers’ perception of the causes and impacts of environmental degradation in Nigeria.

Table 3: T-test Analysis of Female and Male Social Studies Trainee-Teachers’ Perception of the Causes and Impacts of Environmental Degradation in Nigeria.

Group	No	\bar{X}	SD	df	t. cal	Sig	Decision
Female	126	53.65	597.74				Accept Null
Male	54	53.31	383.54	178	0.12*	p < 0.05	Hypothesis

* Significant p < 0.05

Table 3 shows that the calculated t-value of 0.12 is less than the critical t-value of 1.96 at 178 degree of freedom and 0.05 level of significance. Therefore, the null hypothesis is accepted. This means that female and male Social Studies trainee-teachers’ in University of Ilorin do not differ significantly in their perception of the causes and impacts of environmental degradation in Nigeria.

Discussion of Findings

From the data collected, analyzed and presented in Table 1, it is obvious from the perception of Social Studies trainee-teachers in University of Ilorin that the degradation of the environment is as a result of several factors most of which are human-induced factors that tend to distort the smooth functioning of the physical environment. This appears to be in line with the position of Iwejingi (2011) that the rapid growth in human population in Nigeria has mounted enormous pressure on the land, air and water resources which eventually leads to the degradation of the environment with attendant consequences on human health. The answers to research question one is also in sync with the views of Skye (2012) that the major cause of environmental degradation all over the world is human disturbance on the physical environment. The findings in Table 1 are also in agreement with the opinions of Worgu (2000), Etuonovbe (2009), Nnaji (2012), and Duru (2014) who maintained for instance that, the exploitation and exploration activities of oil multinationals operating in the Niger Delta region coupled with the wanton destruction and vandalism of oil and gas installations by aggrieved youths contributes in no small measure to the devastation of the environment experienced by the people of the Niger Delta region of Nigeria.

Similarly, the results as presented in Table 2 shows that due to environmental degradation, human health, the tourism industry, the economy, the ecosystem and biodiversity, developmental prospects among other important aspects of national cum physical environment in Nigeria are severely affected. In fact, this is in consonance with what Fagbohun (2011) noted that when the environment is made unusable through pollution or natural resources are misused, over-used (and in most cases depleted); it can deprive the vast majority of people of access to critical and basic survival resources which would later result to civil strife or instability in such areas. This is true because, for instance, the cattle’s grazing on farmlands across the federation has over the years resulted in violence and killings between herdsmen and farmers. Also, the indiscriminate and illegal felling of trees without corresponding replacement through tree planting has not only affected wildlife, but it has also contributed to erosion and destruction of valuable forest reserves in most communities across the federation.

Again, the only research hypothesis tested in the study which is reported in Table 3 showed that both female and male Social Studies trainee-teachers in University of Ilorin were more or less the same in their perception of the causes and impacts of environmental degradation in Nigeria. This means that based on their (i.e. Social Studies trainee-teachers) level of exposure to environmental knowledge in Social Studies, their perception could not have been coloured by their gender. In other words, the impacts of environmental degradation are felt by everybody irrespective of social class or gender.

Conclusion

By way of conclusion, it can be submitted here that the physical environment in Nigeria is at risk if urgent steps and concerted efforts by all and sundry is not taken. In an ideal situation, there ought to be in existence a symbiotic relationship and interaction between the human population and the environment that the Almighty has given us freely for survival and sustenance. A lot needs to be done in the area of environmental conservation and sustainability not only by the government but also individual citizens and communities. Therefore, the following recommendations are made in the light of the findings arising from this study:

1. any exploitation or exploration of the resources within the environment must be done in such a way that the future effects of such activities are seriously taken care of especially at the level of environmental impact assessment.
2. in order to ensure a safer and sustainable environment for the present and future generations, everybody (the young and the old, the professionals and non-professionals, the educated and uneducated, etc.) must be fully mobilized, sensitized and educated on the best practical ways to explore the environment without necessarily destroying the balance of the ecosystem.
3. the teaching of emerging issues such as environmental pollution/degradation and environmental studies in Social Studies curriculum at all levels of the education system should be intensified with all the seriousness it deserves.
4. therevitalization and strengthening of environmental protection agencies at the federal, states and local governments with a corresponding strict enforcement of enabling environmental laws will go a long way to reduce incidences that may likely cause environmental degradation in Nigeria.
5. To ensure that youth restiveness and militancy is reduced to the barest minimum especially in the Niger Delta region, there is need to harness the resources of the environment without necessarily destroying them.

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Contributions of the authors

- *Yusuf, AbdulRaheem¹ : The writing of the introductory part of the study and discussion
- Bello, Muhinat B.² : The Analysis of the data collected from the field of study , recommendation
- Owede, C. Victory³ : formulation of the study title and administration of the instrument
- Daniel, A. Lucky⁴ : Administration instrument and writing of references