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ENVIRONMENTAL EDUCATION (EE) AND THE CHALLENGES OF THE 21ST CENTURY NIGERIAN TEACHER EDUCATION

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ABSTRACT

Environmental education (EE) and protection has come to stay in Nigeria because of the numerous environmental problems like soil erosion, desert encroachment, oil spillage, etc., which disturb the country in many places and they affects the teacher education programmes. This underscores why the topic of the paper is EE and the challenges of the 21st century Nigeria teacher education. The manifestation of these problems has made the government to create environmental policy and EE with a view to prevent and ameliorate environmental damage. Despite these measures, the challenges of EE is complex following its interdisciplinary nature, the shortage of competent teachers for the classroom and the ability to dispense the new courses concerning EE, the geometric rise in human population, which as a result puts more pressure on the environment, etc., these factors continue to challenge Nigeria's environmental policy and education. This theoretical based analysis, concludes that the environment has suffers great abuse by humans, and is being beset with enormous problems that affective teachers training. This paper therefore, recommends among others that the Federal Government should as matter of urgency promulgate laws that can put an end to unwise way of exploiting the natural environment because of its effects on teacher education.

Keywords: Environmental Education, Challenges, 21st Century, Teacher Education, Nigeria.

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INTRODUCTION

Environmental educators in the new millennium has come up with new knowledge and techniques that addresses the demands of a constantly evolving social and technological landscape, while ensuring that environmental education (EE) stays relevant to the needs and interests of the community. The challenges of EE in the 21st century requires that we re-examine the way we do research and train environmental professionals and educators, as well as the way we communicate environmental information to the general public. Nonetheless, countless efforts have been made to strengthen EE issues in the public domain in terms of streamlining and defining EE and its objectives. Over the past years, it has been observed that the North American Association for Environmental Educators have spearheaded efforts to develop mechanisms to strengthen standards for EE, and to make it possible to achieve them. However, a solid foundation for EE has been laid. In the United States for example and in most advanced countries, there are several leaders in the field of EE, which have had extraordinary impact on the domain (Abubakar, 2010).

There is plethora of EE material available for all age groups and for most learning situations, which can be incorporated in broad-based EE efforts to meet diverse needs. As scientists and educators, we have the opportunity and the responsibility to utilize and expand this resource base. The way we plan today for public education on the environment will have dramatic effects on the future quality of life. Effective and meaningful EE is a challenge we must take seriously if we and future generations are to enjoy the benefits of our natural heritage (Adebisi, 2003).

Education in Nigeria is seen as a tool or instrument for excellence for national development. Education determines the pace of development and growth all over the world (Nwanekezie & Ogoni, 2021). In Nigeria, EE and its protections have become inevitable for the achievement of environmental sustainability, self-reliance and positive development because Nigeria's environment has suffered unwanted abuse from humans that has led to its environment degrading. In most regions of Nigeria for example, the south eastern region is home to a number of gully erosions that have caused untold hardship and damages to numerous farmlands such that many people find it difficult to acquire enough farmland for farming (Agbor et al., 2023). Also, oil spillage and gas flaring from oil companies has brought a lot of destructions in the South-South region of the country. In the northern fringe, the Sahara desert is rapidly encroaching on the lands, and this results in shortage of rainfall and poor crop yield each year (Akintude, 2008).

The appearance and the persistence of the environmental problems in Nigeria have prompted the federal government to initiate environmental policy and EE with a view to prevent and improve the environmental damages by these challenges. The policy interventions are found in the National Policy on the Environment. The policy is to "ensure environmental protection and the conservation of natural resources for sustainable development" (Federal Republic of Nigeria, 2016). Despite the intervention by the federal government, the challenges to the success of the measures taken abounds. The complex nature and the interdisciplinary features of the environment, EE demands changes in teacher education programmes to ameliorate the conditions (Amanchukwu et al., 2015). The current shortage of trained EE teachers to teach the course is a major challenge. The worry in this paper is that environmental problems started appearing in this Nigeria many decades ago. The government and people of Nigeria were conscious of the existence of the said problems; but little or nothing is being done to curb the environmental degradation. In fact, most of the control and preventive measures of the problems remain in

government files and both print and electronic media without enough physical proper follow-up to ensure their success (Agbor et al., 2022). Consequently in this paper, we examined EE and the challenges of the 21st century in Nigeria.

The Concept of Environmental Education

Environmental education (EE) is a process of reporting awareness and adequate knowledge about the problems and function of the environment, how to use the knowledge wisely and proffer solutions to the current environmental problems. Abubakar (2010:176) opined that the concept of EE is concerned with the “analysis of the nature, causes and consequences of the current environmental issues.” However, Akintunde (2008) defined EE as the expansion of the study of the ecological science; a branch of biology that deals with the interrelationship of living organisms with one another including their surroundings. Therefore, the fundamental role of EE is to create awareness about the environment and how to use it for sustainable development. Abubakar (2010:177) highlighted five elements of the objectives of EE:

- Awareness: is helping social groups and individuals acquire the needed awareness and sensibility of the environment and its problems and/or issues.
- Sensitivity: involves helping communities or individuals gain experience in, and also acquire a basic understanding of the environment and its associated problems and/or issues.
- Attitude: involves helping communities or individuals to acquire sets of values and the feeling of concern for the environment and motivating active participation in environmental improvement and protection.
- Skills: involves helping communities or individuals acquire the requisite skills that can help identify and solve environmental problems and/or issues.
- Participation: involves helping communities or individuals with opportunity to be active involved in working toward, resolution of environmental problems/or issues.

Environmental Problems in Nigeria

Our environmental is bedeviled by problems and this is gradually attracting the attention of the federal government and even non-governmental organizations, such as world commission for environment and development (WCED). Gbamenja (1998) has observed that Nigeria may lose as much as five billion US dollars’ worth of natural resources to environmental degradation each year without some form of remedial action. In south eastern states of Nigeria which include Imo, Anambra, Abia and Enugu, gully erosion has caused untold damage to numerous farmlands such that many people find it difficult to acquire enough farmland for agricultural purposes.

Akintude (2008:68) observed that “the ecosystems of south-south states of Bayelsa, Rivers, Delta, etc., have almost been completely destroyed as a result of oil spillage, gas flaring, etc. The amount of destruction of the ecosystems has rendered many community residents hopeless and in extreme poor and the consequences is that the entire Niger-Delta of Nigeria is in crisis. Same is true of the northern region of Nigeria; where the Sahara desert is rapidly encroaching on lands in the region. This always results to shortage of rainfall and poor crop yield each year in the worst heat areas such as Katsina, Sokoto, Maiduguri, Gambaru – Ngala, etc. in the same way, Akintude (2008) observed that flooding is a cyclic natural disaster, that affects the

regions of the lower Niger and Benue Rivers. The damaging effect of flood is that it submerges and destroys building and farmlands, and lives are equally lost including domesticated animals (Adebisi, 2003).

Environmental Policy and EE in Nigeria

The numerous problems highlighted above stemmed from the fact that human's unwise use of the environment has made survival or economic and technological development difficult. As such, the situation requires serious policy intervention from Nigeria governments to save its environment from total destruction. The interventions as observed in the national policy on the environment are two in number, that is, short-term and long-term. According to Akintunde (2008:69), "the short-term measures are both preventive and ameliorative". Preventive measures include environmental monitoring programme and environmental impact assessment studies. The ameliorative measures involve installing sandstorm barriers to control desertification; afforestation; flood and erosion control; solid and liquid waste management and sanitary engineering. In the case of long-term measure, the solution to the problems of the environmental challenges in Nigeria will come through national policy interventions such as environmental tax and inclusion of the private organizations in the environmental protection task. Out of the aforementioned measures, the one that involves the youths is EE; and the target youths are mostly found in schools at various levels. The reason for having the young ones as target learners of EE is to ensure that in the long-run, they should be able acquire positive attitude and values towards the environment. This affords the opportunity to not only learn about the dynamics of the environment but also about the policy measure for its sustainability.

Akintude (2008) has also opined that EE is the expansion of the study of ecology. He said in the long-run, the panacea to the problems of environmental degradation in our country will be through a comprehensive EE and raise a generation of Nigeria who will develop positive thinking about the environment and a commitment towards its proper management and preservation on a sustainable basis. Also since the environmental problems in Nigeria are human-made, the themes of the environmental education have to do with reducing the human population and controlling the polluting activities of man. The questions around the environment are often built on the central concepts of EE just as the study of food supplies, source of energy, conservation of resources, pollution of land, air, water and use of pesticides, herbicides, fertilizers, drugs, industrial chemicals, radiation, control of human population and environmental ethics. In addition, it is supposed to constitute the content of EE in Nigerian teacher education programmes (Amanchukwu et al., 2015). Today, EE concepts have been integrated into disciplines such as geography, biology, health science, Integrated Science, social studies and agricultural science, in order to continue to show concern for the environment (Akintude, 2008).

21ST Century Challenges of Environmental Education in Nigeria

Any problem in any human society requires a suitable solution. The introduction of EE in our education system is fundamental to solving our environmental problems in the long-term. However, the complex interdisciplinary nature of the course would not only demand changes in teacher education programmes (Amanchukwu et al., 2015), but also that the current shortage of trained teachers to handle the discipline could serve as a challenge to the implementation of the programme as well as its effectiveness in most places in Nigeria (Ajiboye & Oyetade, 2005).

To control environmental degradation, there is need to reduce human population. But the population of our country continues to increase. The implication is that high demand for food to feed many “mouths” would be on the increase; and there would be a corresponding cutting of trees and clearing of grasses in order to expand farmland for high crop yield to cater for the increasing population (Kwale & Waleti, 2006). Cutting of trees and burning of grasses facilitate soil erosion in the southern region, and in the north, these activities encourage both erosion and desert encroachment. Since the action of man on land for agricultural purpose is continuous, the effectiveness of EE for self-reliance will continue to be challenged. Most of the people interacting with the environment through farming, mining, hunting, fishing and lumbering are ignorant of EE as well as how the ecological system functions. Besides, the education under review was recently introduced and its target learners are the students in schools (Abubakar, 2010).

More so, our people tend to consider and value the short-term economic gain derived from the exploitation of the environment without being mindful of the damage being done to it and the sustainable use of the natural resource available in the environment (Menyu, 2010). Therefore, since the bulk of our population in Nigeria is not well educated about the environment, it will continue to use it recklessly; and this will make it to remain perpetually in problems. According to Amanchukwu et al. (2015), poverty has become a problem in Nigeria such that both rural and urban dwellers use firewood for cooking in homes. Consequently, there is high demand for wood fuel by the citizens of Nigeria either for lucrative business or for cooking. This act is consequent upon high cost of kerosene and cooking instruments (gas cooker and stove) (Kwale, 2010).

The poor condition of the ordinary man has reached a stage where if it is not being controlled and improved, our surrounding environment shall continually suffer degradation by man; and in consequence of that, the education under review cannot actualize its target objectives. In Nigeria, because of increase in population and relative improvement in economic status of civil servants and some few business men, the number of vehicle owners as well as the use of vehicles has increased. Therefore, there is continual smoky discharges into the atmosphere of most urban centres of carbon-monoxide emissions from fairly used cars and industries not in accordance with the United Nations (UN) prescribed environmental friendly emission standard (Udoeye, 2001).

As Nigerians insist on buying many cars or vehicles to cater for the transportation of the increased human population, dangerous gases such as carbon monoxide, sulphur, etc. will continue to be emitted into the atmosphere. This will lead to continuous catastrophic environmental pollution; and ultimate but gradual depletion of the ozone layer with destructive consequence on human, plants and animals (Menyu, 2010).

Closely related to the above challenge is the issue of high dependence on petroleum sector of the economy. This has reached an alarming rate that the nation cannot rely on and develop any sector of the economy much better than that of oil. Consequently, in the oil producing states of our country, gas flaring and oil spillage have greatly impacted on the environment, changing and degrading the value of our seashores and aquatic organism (Udoeye, 2001). The destruction in the oil producing areas will persist as Nigerians cannot do without petroleum for now. Therefore, this is a big challenge to the effectiveness of EE in Nigeria. Other challenges include the high illiteracy among majority of the population, the lack of proper implementation of the environmental laws, and the indiscriminate dumping of solid waste materials, etc.

Methods of Teaching Environment Education

The method that could be employed in teaching EE include lecture, discussion, practical field studies or excursion, project, seminar, symposium, quiz, debate, etc. However, Abubakar (2010:180) has opined that the teaching of the issues in question could achieve its target objectives through putting emphasis on:

- **Reconnaissance Survey:** All environmental problems to be tackled need a well-planned reconnaissance survey. To embark on such surveys, the equipment to be used on field as well as the topographical maps should be provided as they guide the movement and work of the researcher, while on the field.
- **Measurement of Environmental Attitude:** these measures include those on the vegetation parameters the soils and its colour, slope, elevation, depth of water table etc. As much as possible the students should be made to measure them with the supervision of the teacher.
- **Laboratory Analysis:** environmental problems such as pollution and soil erosion require laboratory analysis of soil samples collected from the field the teachers of EE should encourage their students to carry out the analysis for reliable result because mistakes made during analysis reflect in the final result.
- **Collection of Data and Statistical Analysis:** data collected from the field and laboratory should be made in an orderly manner to ease computation and statistical analysis. In this aspect of research, the teacher needs to give a very good attention to the learners because most of them find it difficult to collect, analyses and compute simple data.

CONCLUSION

It is glaring from the write up that our environment suffers great abuse by humans and as a result, it is being surrounded by enormous problems that affects teacher training. Even now that the federal government is trying to tackle environmental problems through EE, the challenges to this effort are numerous and persistent. This requires collective efforts of all Nigerians in order to salvage our highly cherished environment from total decay, so as to sustain it for future use by our generations to be born.

Recommendations

In view of the numerous challenges of EE, the author's deemed it necessary to put forward the following recommendations:

- The federal government should promulgate a law that can put an end to unwise way of exploiting the natural environment.
- The federal and state governments should continue to enlighten the citizens of Nigeria on the danger of unwanted destruction of the surrounding environment by man.
- The three tiers of government should continue to embark on tree planting campaign so as to replace the depleted vegetation cover.

- Our national government should endeavour to reduce the high cost of cooking instruments such as gas cooker, stove, etc., as well as kerosene in order to make them affordable to poor people.
- Local government officials, who are close to the people using the environment should always monitor unwanted destruction of the natural environment by humans.

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