Reducing the Challenges of Environmental Sustainability through Adult Education Programmes in Udenu, Enugu State

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Abstract. Environmental sustainability is an important component of sustainable development. This paper assessed the extent adult education programmes could help in reducing the challenges of environmental sustainability. The study is descriptive survey. Respondents for the study consist of 92 adult learners and 5 adult education facilitators in the study area. The data collected from the research objectives were analyzed using mean score. A 13 item questionnaire was used to collect data for the study. The instrument was validated by three experts. Cronbach Alpha technique was used to establish the reliability before administrating the instrument to the respondents. Reliability co-efficient of 0.81 was obtained. The findings, among others, were that, adult education programmes emphasize the need to balance development with conservation of environmental resources such as forests. Conclusively, it is evident that adult education programmes such as environmental education enhance environmental sustainability as it equips individuals in the society to effectively conserve their environmental resources for the present and future generation.

Key Words: Environmental Sustainability, Adult Education, Environmental Education, Vocational Education, Deforestation

1.0 Introduction

Environmental sustainability is an important component of sustainable development as it is interested in making proper use of available human and natural resources in such a way that will benefit both the present and future generation. Man’s environment is the physical, socio and cultural forces which interact with man and influence his or her life. These forces include natural forces such as air and water bodies; living and non-living things such as plant, animals, land mass among others¹. Man depend largely on the resources from its environment in order to have access to their essential needs such as food, water, shelter, clothing, security and all other needs. This level of dependence on the environment for survival by man could lead to the degradation of the environment with its resultant adverse effects. This has made the issue of environmental sustainability a vital topic of discussion. Sustainability is the ability to utilize available resources for meeting the need of the present while also enabling the future generation to meet their own needs².

Therefore, environmental sustainability has to do with ensuring that man successfully harnesses the human and natural resources in the environment to satisfy the needs of the present and future society. Environmental sustainability as the preservation, control and balanced use of human and natural resources so as to maintain the ecological community, support all life, ensure the preservation of biodiversity and prevent environmental degradation³. This implies that environmental sustainability is the process by which the environmental activities of the human society towards survival satisfies their present needs and also enables the environment to regenerate in order to satisfy the needs of the future human society.

However, there are factors which pose some serious challenges to environmental sustainability. These challenges include deforestation, improper waste disposal, poverty, population growth and urbanization. Deforestation occurs when trees are cut on a large scale, thereby resulting to
significant disruption of a forest ecosystem. This implies that deforestation involves any form of cutting of trees without adequate replacement; these trees could be cut as a means of providing timber for construction or wood for fuel or for any other purpose. The effects of deforestation to the earth's ecosystem is always severe and often challenges environmental sustainability since it could lead to uncontrollable flooding, loss of habitat for animal, destruction of houses by heavy breeze, increased greenhouse gases in the atmosphere among others.

In addition to deforestation, improper waste disposal could also be a challenge to sustainable environment. Improper waste disposal could result to air, soil, and water pollution; it could also contaminate surface and ground water supplies, clog drainages creating stagnant water for insect breeding and floods during rainy seasons which militate against environmental sustainability (Agboeze, Ugwueze and Agboeze, 2018). However, some of these challenges facing environmental sustainability such as improper waste management and deforestation could be effectively improved on through adult education programmes.

Adult education is an education process which is designed to enable responsible members of a society to acquire necessary knowledge and skills to help them function effectively in the society. Adult education programme involves any educational activity designed to equip adults with required skill and knowledge for personal and community development (Onyenemezu, 2012). Adult education programmes can prepare citizens of a society to effectively fit into the society in such a way that they could put in significant contribution to the sustainable growth and development of the environmental resources (Ugwueze, Agboeze & Agboeze, 2018). Therefore, adult education programmes have the potential to equip individuals with knowledge and skills to effectively manage their environment for sustainability. Adult education programmes which can help in reducing the challenges facing environmental sustainability include environmental education.

Environmental education is a learning process which is designed to improve the knowledge and awareness of individuals about their environment, its associated prospects and challenges. Ezebube (2010) stated that environmental education is a process of developing in the adult, certainattitudes, skills and knowledge which they must utilize so as to live successfully within their environment. More so, environmental education could enable the adult members of the society to understand the problems associated with some of their wrong actions such as continuous deforestation and improper waste management; it also trains them on the effective ways of managing problems which occur within their environment (Essien & Anthony, 2017). Therefore, environmental education could transform individuals against indiscriminate development that disregards ecological balance such as deforestation and improper waste management in Udenu, Enugu State.

Udenu is a Local Government Area in Enugu State, Nigeria. The local government area is made up of so many rural communities possessing a lot of natural resources such as palm trees, cashew trees, streams and fertile land (Udenu, 2019). However, most of the activities of the people in the community pose serious challenges to environmental sustainability. According to Okeke (2019), there is high level of deforestation in Udenu Local government area as the people often cut down trees for construction purposes, they also cut down trees at will for the purpose of wood fuel and the hunters engage in random bush burning in a bid to scare animals out of the forests into open land. These activities pose serious challenges to environmental sustainability in the area as it often lead to uncontrollable soil erosion which wash away farm produce, significantly damage the road and create serious threats to buildings.

Most of the people in the rural communities of Udenu Local Government Area are migrating to the urban part of the area which is Obollo-afor. This high rate of migration has made Obollo-afor over populated and with lots of slums; trees are cut down to build more houses which will accommodate the people, more houses are built without adequate spacing and along naturally designated drainage paths (Okeke, 2019). This has led to high rate of erosion, heat and storm in the area; it has also increased the rate at which people dispose waste indiscriminately. The local government has made some reasonable efforts to control the rate of deforestation by establishing special task force on forest produce in the local government area; the state government also made
provision for Enugu State Waste Management Agency to control the disposal of waste in the communities.

However, the challenges seem not to be stopping or slowing down, the community members still take part in activities which could destroy the environment. This could be attributed to lack of adequate knowledge or skills needed to effectively harness environmental resources without causing harm to the environment. It is against this backdrop that the researchers seek to collect information for adult education facilitators and learners on the extent adult education programmes such as environmental education could help to reduce the challenges of environmental sustainability such as deforestation and improper waste disposal.

2.0 Objective of the Study
The general objective of this study is to assess the extent adult education programmes could help in reducing the challenges of environmental sustainability. Specifically the study sought to:

1. ascertain the extent environmental education can reduce the rate of deforestation in Udenu, Enugu State;
2. ascertain the extent environmental education can improve waste management system in Udenu, Enugu State;

3.0 Methodology
A descriptive survey research design was used for the study. The descriptive survey research design was used because the researchers were interested in the assessment of the extent adult education programmes could help in reducing the challenges of environmental sustainability. Descriptive survey studies attempt to collect data on, and describing in a systematic manner the characteristics, features or facts about a given population (Nworgu, 2015).

The study was conducted in Udenu Local Government Area of Enugu State. Udenu Local Government Area is one of the 17 local government areas in Enugu state with its administrative headquarter in the town of Obollo-Afor. There are so many primary and secondary schools in the local government area and three adult education centers (Udenu, 2019). The population of the study consists of ninety seven (97) respondents from the 3 adult education Centres in Udenu Local Government Area of Enugu State, consisting of ninety two (92) adult learners and five (5) facilitators (Udenu, 2019). The entire population was used for the study because the number is manageable.

The researchers made a structured questionnaire titled “Reducing Environmental Sustainability Challenges through Adult Education Programmes” (RESCADEP) was face validated by three experts. Cronbach alpha technique was used to determine the internal consistency of the questionnaire items and the reliability coefficient of 0.81 was obtained. 97 copies of the questionnaire were distributed and collected by the researchers with the aid of a research assistant. Hence, from 97 copies of the questionnaire administered, 93 were rightly completed accounting for 96 % return rate and was therefore, used for data analysis.

The weighted mean was used to analyze the collected data. The criterion mean of the scale of the items is 2.50. Any item with a weighted mean value of 2.50 and above was considered accepted while any weighted mean of less than 2.50 was considered not accepted.

4.0 Results
Table 1: Mean ratings on the extent environmental education can reduce the rate of deforestation in Udenu, Enugu State.

| S/N | Item Statement | Mean | Decision        |
|-----|----------------|------|----------------|
| 1   | Reveals to the people the dangers associated with felling trees such as erosion | 2.72 | High Extent    |
| 2   | Highlights to the people the essential services which forest provides such as animal habitats | 2.51 | High Extent    |
Equips the members of local communities with legal processes for felling trees so that they can defend forest lands against destructive companies.

Promotes reforestation so as to maintain balance in the ecosystem

Sensitizes the community members on strategies for protecting the forests from damage

Helps the society to appreciate the aesthetic nature of forests

Emphasizes the need to balance development with conservation of environmental resources such as forests

Grand Mean

Table 1 shows the mean ratings of the respondents on the extent environmental education can reduce the rate of deforestation in Udenu, Enugu State. It shows that the mean ratings of the respondents from items 1 to 7 are more within the mean range of 2.50 to 2.90. This means that the respondents agreed that to a high extent, environmental education can reduce the rate of deforestation in Udenu, Enugu State as it exposes to the people the dangers associated with felling trees such as erosion, highlights to the people the essential services which forest provides such as animal habitats, equips the local communities with legal processes for felling trees so that they can defend forest lands against destructive companies, promotes reforestation so as to maintain balance in the ecosystem, sensitizes the community on strategies for protecting the forests from damage, helps the society to appreciate the aesthetic nature of forests and emphasizes the need to balance development with conservation of environmental resources such as forests.

This is in line with the findings of Eheazu (2016), which revealed that environmental adult education has the potential of helping youths and adults of a community to acquire adequate knowledge about their physical environment and also help them to be well equipped with necessary information about the natural resources being utilized for their everyday survival. Based on this, it is clear that environmental education is a necessary tool for exposing the individuals in a community to know the dangers associated with deforestation and also equipping them with the right skills for protecting the forest resources. Therefore, environmental education will equip the society with adequate knowledge and skills to harness forest resources without causing damages to them.

Table 2: Mean ratings on the extent environmental education could improve waste management system in Udenu, Enugu State?

| S/N | Item Statement                                      | Mean   | Decision   |
|-----|-----------------------------------------------------|--------|------------|
| 1   | Trains citizens on waste separation techniques      | 2.82   | High Extent|
| 2   | Trains the people on ways to recycle and reuse some solid wastes | 2.41   | Low Extent |
| 3   | Promotes adequate and proper town planning for effective waste management. | 2.63   | High Extent|
| 4   | Educates members of the society on how to maintain good drainages | 2.54   | High Extent|
| 5   | Equips the learners with the knowledge and skill to determine appropriate waste disposal method | 2.80   | High Extent|
| 6   | Enlightens individuals on the problems associated with uncontrolled waste. | 2.73   | High Extent|
Table 2 shows the mean ratings of the respondents on the extent environmental education can improve waste management system in Udenu, Enugu State. It shows that the mean ratings of the respondents on items 1, 3, 4, 5 and 6 are within the mean range of 2.50 to 2.82 while only the mean rating of the respondents on item 2 is below 2.50. This implies that to a high extent, environmental education can improve waste management system in Udenu, Enugu State as it trains citizens on waste separation techniques, promotes adequate and proper town planning for effective waste management, educates members of the society on how to maintain good drainages, equips the learners with the knowledge and skill to determine appropriate waste disposal method and enlightens individuals on the problems associated with uncontrolled waste.

This agrees with the earlier finding of Ononeze, Ibe and Okoroafor, (2018) which stated that environmental education promotes a more healthy relationship between humans and their environment and also inculcates in the humans practical knowledge, information and necessary skills for ensuring proper waste management. Therefore, environmental adult education would help the members of the community to understand fully the dangers of indiscriminate disposal of waste in the environment. It will also help them develop the needed skills to separate wastes and dispose them appropriately so as to maintain a clean and sustainable living environment.

5.0 Conclusion

Environmental education supports environmental sustainability as it equips individuals in the society to effectively conserve their environmental resources for the present and future generation. Environmental education can reduce the rate of deforestation as it emphasizes the need to balance development with conservation of environmental resources such as forests. Environmental education can also improve waste management system as it equips the learners with the knowledge and skill to determine appropriate waste disposal method.

Recommendation

Based on the findings, the study made the following recommendations:

- The government should sensitize various community leaders on the need to engage periodically in community tree planting exercise. This will enable the community leaders and their subordinates to appreciate the roles forests play in maintaining ecological balance.
- Environmental education programmes designed to improve waste management system should also be aired on radio. This will help most people including the rural poor gain access to information on appropriate waste management systems.
- The government should create smooth linkage between rural communities, industries and vocational institutions to ensure that relevant content which meets labour needs are taught to the rural youths and adults so as to make them economically relevant and self-reliant even in their rural communities.

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