



Environmental adult education as a strategy for protection and management of the environment in Ideato north and south local government areas, Imo state, Nigeria

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Abstract

The main purpose of the study is to determine the use of Environmental Adult Education (EAE) as a strategy for protection and management of the environment in Ideato North and South Local Government Areas of Imo state, Nigeria. Four research questions guided the study. The study was a descriptive survey design which adopted purposive sampling technique by adopting 133 instructors in the 26 adult education learning centres in the Local Government Areas. Self-structured questionnaire was used for collection of data. The instrument was subjected to face and content validity by three experts after which the comments and recommendations were effected in the final construction of the instrument by the researchers. The reliability of the instrument was ascertained using Pearson (r) correlation statistics and 0.62 was obtained and considered adequate for the study. Data collected were analyzed with mean. The findings revealed that; environmental adult education, awareness creation through mass media on environmental issues, mobilizing the adults, implementing of appropriate curriculum, introduction of monthly sanitation exercise, prosecuting the defaulters etc are some of the ways of cultivating in adults the skills, values, culture and right attitudes to environmental protection and management. The study, therefore, recommended that government at all levels should provide funds to organize seminars for the adults on how to improve and manage their natural resources to enable them live harmoniously in their environment, among others.

Keywords: implementation, objectives, environment, environmental education, environmental adult education

Introduction

Adult education has been among the viable training processes through which any nation utilizes to develop desirable behaviours, skills and attitudes of the citizens. It prepares individuals for proper integration into the society and contributes meaningfully to their growth and community development. It also equips the individuals with knowledge and skills to protect and manage their environment. An individual's environment consists of things which directly or indirectly influence life activities and actions. There are many activities individuals carry out in their environment which could be harmful. Thus, giving rise to a great need to educate people about their environment and the various ways of contributing to sustainable environment and attaining good health (Ezebube, 2010) ^[18]. Human beings are usually influenced and confronted daily by environmental challenges in different ways. One of the major elements of environmental influences on the individual as Ezebube explained is the availability of resources which determine the type of life-style an individual lives, the tools he uses for operations, the limit of his operations both in time and space. The various activities of individual in their environment in the quest for survival have brought tremendous impact on the environment. According to Obasi (2011) the activities of individuals range from participation in farming, indiscriminate destruction of forest and bush burning, the use of dangerous chemicals in fishing, and fertilizer in farming. All these human activities have brought destruction to the environment which in turn

affects human beings negatively and which could be addressed through Environmental Adult Education (EAE).

Environmental Adult Education deals with the adult citizens and their environment. Hence, Ezebube (2010) ^[18] described it as a process of developing in the adult, certain attitudes, skills and knowledge that will enable them live successfully within their environment. An individual has to exhibit those values, attitudes, skills and knowledge acquired through environmental education. Among the best ways to achieve positive rural community attitude towards their surroundings and places where they reside is through environmental education programmes. The National Environmental Standards and Regulations Enforcement Agency (NESREA) during their 2008 conference in Abuja stressed that environmental experts hinged success of environmental regulations on public awareness and rural community sensitization activities. According to the then Director – General (DG) of NESREA, Nigeria, environmental awareness campaigns and public sensitizations in Nigeria create opportunity for the adults attitudinal change towards making the environment cleaner and healthier (Badejo, 2008). It is pertinent to note that industrialization has equally brought uncontrolled injection of industrial fuel into the atmosphere and indiscriminate dumping of waste which have all contributed to the degradation of the environment, depletion of wildlife and biodiversity and an imbalance in the ecosystem (Ezebube, 2010) ^[18]. All these challenges, according to the author, have increased the rate of poverty because the

fertility of the farmland is reducing, leading to poor harvest of crops, including the destruction of economic plants and herbal trees. The burning of bushes for farming also contributes to some extent to global warming; involving the emission of carbon dioxide (CO₂) into the atmosphere (UNESCO, 2014). The destruction of forests leads to extinction of many animals and plant species, causing changes in weather patterns locally and globally.

In this regard, Apel and Camozzi (1996) ^[6] emphasized that through environmental adult education, individuals are sensitized and awareness created, which results to the acquisition of right knowledge, skills and attitude towards the environment. The authors further stressed that the application of environmental knowledge and principles in the daily life activities of the adult individuals will help them to alleviate poverty because such education is need-oriented. In the view of Betiang (2008) ^[11] environmental adult education is the process of developing in adult individuals certain skills, attitude, behavior, knowledge to enable them interact successfully and live in harmony with the external forces which include physical, chemical, biological, psychological and socio-cultural characteristics and everything that falls within the context of the environment with which individuals interact. The author went further and maintained that environmental adult education is, thus, concerned with imparting more ecological information to the adult citizens in order to influence their behavior for the good of the planet earth. This is anchored on the belief that the causes of human and environmental crisis rest on the behavioral patterns and value systems of the individual, and therefore, environmental adult education aims at changing the behaviour of adults towards the environment.

The global and local concern about growing environmental degradation has called for the need to help people transform their attitudes and practices. Consequently, education has been recognized as one of the important tools for conserving the environment through cultivation of knowledge, skills, values and positive attitudes towards the environment among the people (Ephraim, 2016) ^[17]. The relevance of implementation of the objectives of EAE has been emphasized as a strategy for addressing the growing trend of environmental problems in our society. For instance, the need for implementation of the objectives of environmental adult education which was emphasized at the United Nations Conference on human environment in Stockholm in 1972 was meant to attack the world's environmental crises. This is with the belief that if step such as encouraging adequate implementation of the objectives of EAE to bring change in individuals' orientation to the environment is taken, the rate of environmental degradation would be reduced. Greater awareness will be created about environmental issues and problems bearing in mind that man's economy is largely dependent on the countries environment and resources. Hence, the objectives of environmental adult education used for this study include the ones outlined by Betiang (2008) ^[11]:

- To develop in adults the skills for solving environmental problems
- To help adults implement appropriate curriculum for environmental adult education.
- To develop aesthetic values that will encourage adults

appreciate culture of beautification of their environment.

- To develop appropriate action programmes to mobilize adults in the protection and restoration of the quality of the environment.

Therefore, environmental adult education is about development of skills, knowledge, ability and potentials including professional skills for adults to manage their environment effectively in their environment

Unfortunately, the low rate of environmental protection and management in Ideato and North Local Government Areas has attracted considerable concern of some scholars.. This can be deduced from the high rate of environmental degradation which pervades in the areas. The fact remains that in spite of the numerous environmental education programmes that have been introduced by the successive Nigerian governments, many inhabitants in the areas have not adequately availed themselves of the environmental education opportunities to improve their lots. In fact, it is not clear if the inhabitants have acquired the skills, values and attitudes for solving environmental problems. One wonders if the environmental adult education programme targeted at the rural populace has been contributory in tackling their environmental issues. Hence, the researchers sought to determine how the objectives of EAE could be used as strategies for protection and management of the environment in the areas.

Research Questions

The following research questions guided the study:

1. In what ways does EAE help adults in acquiring skills for solving environmental problems?
2. In what ways does implementation of appropriate curriculum for EAE programmes guarantees adults' environmental friendliness?
3. In what ways does EAE guarantees development of aesthetic value for adults to appreciate culture of environmental beautification?
4. In what ways does planning appropriate action programmes mobilize and educate adults for environmental protection and management?

Materials and Methods

The study adopted descriptive survey design: The population of the study comprised of the 133 instructors in the 26 adult education learning centers in the local government areas. There was no sampling in this study because the population was small and manageable. So, all the 133 instructors were used for the study. A self – structured questionnaire titled "Implementation of the Objectives of Environmental Adult Education Questionnaire (IOEAEQ) was used for data collection. The instrument was subjected to face and content validity by three experts, one from Department of Adult Education, Nnamdi Azikiwe University, Awka, Anambra State, another one from Department of Educational Measurement and Evaluation, Imo State University, Owerri, and the other from Department of Environmental Sciences, Federal University of Technology Owerri, Imo State, all in Nigeria. Comments and recommendations were effected in the final construction of the instrument by the researchers. The reliability of the instrument was ascertained using Pearson (r) correlation statistics and 0.62 was obtained and considered

adequate for the study. Data collected were analyzed with mean. Decision rule was based on 4 – points numerical values on the response modes assigned: Strongly Agree (SA) = 4 Points, Agree (A) = 3 points, Disagree (D) = 2 points and Strongly Disagree (SD) = 1 point. A criterion mean of 2.50 was adopted. This means that any mean score that was up to

2.50 and above was regarded as agreed while any mean below 2.50 was regarded as disagreed.

Results

Research Question One: In what ways does EAE help adults in acquiring skills for solving environmental problems?

Table 1: Mean scores of the respondents on the ways EAE helps adults in acquiring skills for solving environmental problems.

S/N	Items	Mean	Decision
1	Adults’ participation in EAE programme will help them acquire skills for tackling environmental issues	3.43	Agreed
2	EAE creates awareness through radio, TV, newspaper, internet etc that influence adults to solve environmental problems.	3.16	Agreed
3	EAE impacts in adults the basic skills for interacting and exploiting the environment without causing any damage to it.	3.89	Agreed
4	Government introduction of monthly sanitation exercise in our localities equips adults with skills for solving environmental problems.	3.19	Agreed
5	Punishment of the abusers of the environment is a way of instilling right attitudes in citizens to protect their environmental.	2.77	Agreed
	Mean of Means	3.09	Agreed

The result in Table 1 shows that all the items including the mean of means were agreed by the respondents. This was because the means were greater than the criterion mean of 2.50. This implies that participation in environmental adult education, awareness creation through mass media on environmental issues, introduction of monthly sanitation

exercise, prosecution of environmental abusers etc are ways of instilling skills in adults for solving environmental problems.

Research Questions Two: In what ways does implementation of appropriate curriculum for EAE programmes guarantees adults environmental friendliness?

Table 2: Mean scores of the respondents on the ways implementation of appropriate curriculum for EAE programmes guarantees adults environmental friendliness.

S/N	Items	Mean	Decision
1	Adult education curriculum that contains EAE programmes guarantees environmental friendliness.	3.22	Agreed
2	EAE curriculum provides adult with knowledge of dangers associated with environmental degradation.	3.15	Agreed
3	EAE planners restrict the curriculum from addressing major issues of environmental challenges.	2.35	Disagreed
4	Inclusion of sanitation into the EAE curriculum is an appropriate means of educating adults on the need to create friendly environment	3.38	Agreed
	Mean of Means	3.13	Agreed

The result in table 2 shows that only item 3 was disagreed by the respondents because the mean was lower than the criterion mean of 2.50 while items 1, 2 and 4, including the mean of means were agreed by the respondents owing to the fact that the means were greater than the criterion mean. This implies that implementation of appropriate curriculum for

environmental adult education programmes will guarantee environmental friendliness.

Research question Three: In what ways does EAE guarantees development of aesthetic value for adults to appreciate culture of environmental beautifications?

Table 3: Mean scores of the respondents on the ways EAE guarantees development of aesthetic value for adults to appreciate culture of environmental beautifications.

S/N	Items	Mean	Decision
1	Indiscriminate dumping of refuse has thwarted the visual image and aesthetic quality of the environment.	3.29	Agreed
2	Government beautification of the environment through planting of flowers will encourage adult to develop aesthetic value for their environment.	3.31	Agreed
3	Our environment can be beautify if the wastes are analyzed and recycled for other production as this will improve our environment.	3.23	Agreed
4	Adults’ development of aesthetic value helps them have positive attitude on environmental beautification.	3.21	Agreed
5	Development of aesthetic value of beautification in adults enable them appreciate the operation of their natural environment.	3.00	Agreed
	Mean of Means	3.21	Agreed

The result in table 3 shows that all the items, including the mean of means were agreed by the respondents owing to the fact that the means were greater than the criterion mean of 2.50. This implies that developing knowledge and skills, right attitudes and culture, aesthetic values in adults, among others are the ways EAE guarantees aesthetic value for adults to

appreciate culture of environmental beautification.

Research question Four: In what ways does planning appropriate action programmes mobilize and educate adults on environmental protection and management?

Table 4: Mean scores of the respondents on the ways planned appropriate action programmes mobilize and educate adults on environmental protection and management.

S/N	Items	Mean	Decision
1	Building capacities in technical, social and institutional aspects of environmental management is an action programmes for mobilizing adults for environmental protection	3.24	Agreed
2	Radio and television programmes are used to mobilize adults on the ways to protect their environment	3.12	Agreed
3	Neighborhood upgrading programme is a strategies for mobilizing adults environmental protection	2.88	Agreed
4	Seminars and conferences are more effective in reaching out to adults on issues on environmental protection	3.14	Agreed
5	Non-formal environmental adult education programme increases people's knowledge on environmental protection	3.21	Agreed
6	Environmental sanitation exercise is a good strategy for mobilizing adult to contribute their quota in environmental protection	3.15	Agreed
7	Reorientation of teachers and instructors with regard to natural resources management is a planned appropriate action programmes for mobilizing adults for environmental protection	3.22	Agreed
8	Proper information exchange among scientists significantly increases adults' awareness on environmental issues and protection.	3.00	Agreed
	Mean of Means	3.12	Agreed

Table 4 equally shows that all the items, including mean of means were agreed by the respondents because the means were above the criterion mean of 2.50. This implies that planning appropriate action programmes will mobilize and educate adults on environmental protection and management.

Discussion

The result of the research question 1 in table 1 shows that EAE influences adults on acquiring skills to solve environmental problems. This implies that environmental adult education, awareness creation through mass media on environmental issues, introduction of monthly sanitation exercise, prosecution of environmental abusers, among others are ways of instilling skills in adults for solving environmental problems. This is in agreement with the view of Eheazu, (2011) ^[14] that global warming occasioned by various factors of environmental degradation (deforestation, pollution, industrial effluents) has become a major concern of man on earth. The author stated that the sustainability of life on earth has been seen to depend largely on man's knowledge, awareness and capability to protect and positively manage his environment. In support of this, Eheazu (2014) ^[16] revealed that acquisition of environmental skills by adults in Nigeria is for protection of the environment and this has not improved not minding the present developments in the society. The author stated that the institutions in Nigeria lack the managerial skills and facilities in training students on the environmental management and protection, including institutions that specialized in environmentally related areas like Botany and Geography/Environmental Studies.

Hodgkinson & Innes (2011) ^[22] suggested that the remediation of the inadequate acquisition of skills for management and protection of our environment would be overcome when various levels and the administration of the Nigerian educational institutions close rank to design core and compulsory environmental adult education programmes that will form part of the curricular at the various levels of education. The author went further and suggests that environmentally related disciplines like Botany and Geography need to broaden their contents beyond their basic curricular. According to Akpama & Arikpo (2012) ^[7], EAE is one of the strategies for management and protection of the environment, hence that adult lives, interact and exploit the resources of the environment. The author emphasized the need

to develop in adults those basic skills that will enable them interact and exploit the resources within their environment without causing any degradation within their environment. Adewale (1992) agreed that adults dictate how environmental resources are harnessed. The author maintained that there is need to sensitize adults on the imperatives of sustainable utilization of the over degraded environment. Education programmes such as environmental adult education and education for sustainable development could be relied on to educate adults on how their day to day socio-economic activities impact on the environment and how they can conduct such activities in such a way that it does little or no damages to the environment

Research question 2 sought to determine the ways implementation of appropriate curriculum for environmental adult education programmes guarantees environmental friendliness. This will make adults develop the right attitudes to tackle issues of environmental degradation. All items in this cluster were rated to a high extent. This is in agreement with Kimiti (2013) ^[24] who suggested that as a result of inability of the environmental conservation authority to reduce the pollution of the environment and also destruction of the natural resources, efforts are directed towards establishment of environmental adult education curriculum for formal and non-formal activities aimed at educating citizens (adults) against human encroachment on natural resources and the importance of positive attitudes towards the environment. The author maintained that the curriculum should provide adult with skills and knowledge that would keep them informed about the dangers associated with environmental destruction.

In the same vein, Steve & Cooper (1985) ^[26] agreed that over the 20th century, human activities have placed increasing demand on certain environmental services, particularly those affected by human survival and settlement.. The authors further noted that natural resources in the environment are at a great risk, unless strategic measures are immediately put in place through inculcation of such into the curriculum activities in our learning institutions to ensure that both adults and children in the society are educated on the ways to manage their environment and its natural resources. Environmental protection act should be incorporated into the adult learning programmes (curriculum) by the education planners so as to create the awareness on the importance of protecting the environment and educate adults on the proper ways to manage

the natural environment and avoid infringing danger to the creation of nature (Ehezuru, 2011) ^[14]. Therefore, adult education curriculum should be an indispensable tool for liberation and mobilization of people through pragmatic process by educating adults on environmental needs and actions for sustainable living in their environs (Aruma, 2011) ^[8].

The findings from research question 3 in table 3 revealed that development of aesthetic value to appreciate culture of environmental beautification will encourage adult environmental friendliness. The finding is in line with Loftis (2003) ^[25] who pointed out that if aesthetic value judgments are personal and subjective, there will be no way to argue that every one ought to learn to appreciate natural beauty as worthy of preservation. The author further stresses that the environment and its protection are of utmost importance to the development of mankind. In agreement to this, Herttinger (2005) noted that the aesthetic value of the environment is a very important phenomenon for environmental protection in every part of the globe. Though, the environment and its protection are of utmost importance to the development of mankind, several attempts are being made by various governments to solve environmental issues but attention to aesthetic value is relatively lacking (Carlson, 2006) ^[13]. Equally, Gyekye (2003) ^[20] maintained that aesthetic value is characterized by delight, interest and enjoyment experienced by human being in response to objects, events and scenes in their environment. The author suggested that development of aesthetic value by individuals over the characteristics in their environment will enable them observe and appreciate the operation of their natural environment and preserve such for the healthiness of man and his environment.

In the same vein, Fisher (2006) ^[19] gave an influential argument that nature is regarded not as an adversary or resource to be subdued and exploited, but as something with an autonomous and worthy existence in itself. The author also maintained that environmental aesthetics may apply naturally to the ensuing wave of investigation of the aesthetic of nature conducted under the influence of environmental concerns, thus, the rate at which the environment is being degraded and the need to protect it from further destruction, requires awareness creation to man on the need to develop the skill of beautification of the environment through appreciation of aesthetic value. According to Loftis (2003) ^[25], if aesthetic value judgments are personal and subjective, there will be no way to argue that every one ought to learn to appreciate natural beauty as worthy of preservation. Also, Akpama & Arikpo (2012) ^[7] in their study suggested that development of aesthetic value among adults will help on the actualization of the millennium development goals number 7 aimed at ensuring environmental sustainability. The author further alleged that adults dictate how environmental resources are harnessed. There is, therefore, need to develop in the adults the culture of aesthetic value to enable them protect their environment and its natural resources.

The result of the analyses of data relating to research question 4 in table 4 revealed the ways appropriate programmes for mobilizing adults for environmental protection could be achieved. This suggests that planning appropriate action programmes for mobilizing adults on environmental

protection will educate adults on environmental management and protection. This is in agreement with the view of Blatt (2014) ^[12] that mass media plays a vital role in empowering adults about environment and conservation of natural resources. Supporting the above view, Akomalefe (2011) maintained that there is need to increase public sensitivity to environment and development. The guidelines for effective environmental adult education programmes that would lead to behavioural changes on the part of the learners as defined by the Belgrade Charter of 1975 and the 1977 Tbilisi Declaration according to Hungerford and Volk (1990) ^[23] are as follows:

Awareness

Environmental adult education should create awareness and sensitivity among individuals and social groups about the environment and its associated problems. This knowledge will make individuals appreciate the beauty and usefulness of the environmental resources.

Knowledge

It should provide individuals and social groups with the basic understanding of how the environment functions, how people interact with and depend on the environment, and how to solve environmental problems.

Attitude

Environmental adult education should influence individuals and social groups to acquire social values, ethics and strong feeling of care for the environment and the personal zeal and commitment to actively participate in environmental conservation.

Skills

It should make individuals and social groups acquire basic skills and ability for identifying and solving environmental problem.

Participation

Environmental adult education should provide individuals and social group with the opportunity to actively participate at all levels in working towards the resolution and restoration of environmental problems.

Public awareness about environment is meant to help social groups and individuals to acquire a basic understanding of environment and its associated problems (Agboola, 2014). The author also urged that educationists and environmental specialists have repeatedly pointed out that any solution to the environmental crisis will require environmental awareness and understanding to be deeply rooted in the education system at all levels. Allen (2002) ^[4] suggested that in planning programmes for environmental awareness and management of our environment, the following measures can be followed to ensure adult actualization of the objectives of environmental adult education; educating adults and traditional leaders: Traditional leaders and adults can play an inferential role on how people act. This is particularly true in the rural areas where education of these leaders through environmental campaigns demonstrates a commitment to environmental protection.

In addition, Anijah-Obi (2002) ^[5] noted that the following

should constitute appropriate programmes for mobilizing adults for environmental actions; build capacities in technical, social and institutional aspects of environmental management in countries. Re-orient teachers/instructors with regard to natural resources management, organize seminars, symposiums, conferences and workshops for adults on management and sustenance of resources in their environment

Conclusion

From the findings, it can be concluded that the low level of environmental protection and management in Ideato North and Ideato South Local Government Areas attracted considerable concern by some scholars. This is as a result of high rate of environmental degradation in the areas. Consequently, implementation of the objectives of environmental adult education has been recognized as one of the important tools for conserving the environment through cultivation of knowledge, skills, values and positive attitudes of adults towards environmental management and protection. It is assumed that if adequate strategies such as developing aesthetic values in the adults, inculcating appropriate curriculum in adult education and appropriate action programmes for mobilizing adults for environmental protection are put in place, the adults would be environmental friendly, hence, awareness is created.

Recommendations

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

1. Government at various levels should ensure that adequate funds are regularly made available for organizing programmes that will assist in educating the masses on issues of environmental protection. This is because no education venture thrives in the absence of funding.
2. Curriculum planners should include environmental education at all levels of school curriculum so that pupils and students are caught young as they grow into adulthood in developing the right attitude to environmental protection.
3. Regular seminars/workshops/conferences should be organized by the government, stakeholders, Non-governmental Organizations (NGOs), Community Development Officers (CDOs), among others on the implementation of the objectives of environmental adult education. In such process, adults will be exposed to various skills and most effective ways to manage natural resources in their environment.
4. Good spirited individuals in communities where environmental degradation exists should assist government in funding programmes and projects on environmental protection. All hands must be on deck if the objectives of environmental adult education are to be realized. It must not come from government all the time.
5. The State Ministry of Environment in collaboration with Environmental Transformation Agency (ENTRACO) with the agencies for Adult and Non-Formal Education should design detailed curriculum for adult literacy education paying particular attention to EAE.

6. The Federal and the State government should institute best and cleanest environmental friendly awards to states, towns or communities.
7. There is also the need for government to create awareness on the need for environmental protection and management through mass media such as radio, television, newspaper, among others..

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