

Conserving and Preserving Forest and Forest Resources in Nigerian Rural Communities: Implications for Community Education

¹Dr Adekola, Ganiyu, ²Dr Mbalisi, Onyeka Festus

¹*Department of Adult & Non-Formal Education, Faculty of Education, University of Port Harcourt*

²*Department of Adult & Non-Formal Education, Faculty of Education, University of Port Harcourt*

ABSTRACT

The paper identified community education as a practical community-based approach to environmental adult education which is required to raise the consciousness of the rural dwellers over the consequences of the degradation of the forest ecosystem on them as well as develop in them a sense of responsibility and which also motivate them to take actions to forestall activities whether internal or external that will lead to the degradation of the forest ecosystem. It examines the roles community education can play in preserving and conserving forest and forest resources in Nigeria. The paper establishes that the relevance of community education with bias on the environment is embedded on the need to protect our forests and their resources to ensure the continuity of the benefits and services provided by the forests to human beings as well as forestalls the phenomenon of deforestation and its excruciating effects on human beings. The Paper therefore concludes that community education of the rural dwellers for forest conservation and preservation is significant whether or not their (rural dwellers) activities contribute to the degradation of the forest ecosystem.

Keywords: Conservation; Preservation; Forest; Resources, Community Education

INTRODUCTION

The world, for long has recognized the importance of the environment and the need for man to live harmoniously with the environment. However, significant efforts ensuring adequate care for the environment began to manifest in the 1990's through international conferences dedicated to the environment. Reports of these international conferences culminated in the adoption of environmental issues as one of the eight goals of the millennium.

Goal 7 of the Millennium Development Goals (MDG) is to ensure environmental sustainability. The focus of this goal according to Sarumi (2008) is to integrate the principles of sustainable development into the country's policies and programmes and to reverse loss of environmental resources. The focus of this goal on reversing loss of environmental resources confirms that there had been serious damages and loss of environmental resources.

This loss of environmental resources is highly pronounced in the countries of Africa in the area of forest and forest resources. Till today, Africa epitomizes the environmental event that characterizes most tropical forest of the world. The tropical forest occupies about 32% of the total forestland of Africa. In Nigeria, Nigeria Environmental Study Team (1991) revealed that 10% of the country's land area is forest and this translates into about 9.6 million hectares. The team further revealed that the forests are being degraded under persistent human pressure. Specifically, the team noted that:

For long, Nigerians regarded the natural vegetation as an inexhaustible bounty of nature and therefore treated it casually; cutting, burning and clearing it ruthlessly. We lose up to 350,000 ha of forest and natural vegetation annually (NEST, 1991:132).

Similarly, the Federal Government of Nigeria (2000:40) observed that the Nigerian environment is plagued with myriads of environmental problems which include desertification, uncontrolled logging and tree felling, damage to marine and wildlife etc. Federal Government of Nigeria (1999:13) confirms that:

**Address for correspondence:*

onyipath@yahoo.com

It is true that there have in recent years been increasing deforestation, soil degradation and deterioration and desertification in Nigeria. All these have been due to the spread of agriculture, commercial timber felling and local cutting of wood for fuel at will. This is further aggravated by accidental forest fires as well as farming and game related bush burning.

To douse the pressure on Nigerian forests, the FGN (2000:42) set out some specific targets in the area of forestry. These targets include: establishment of 38 new nurseries, 190km of shelter belts, 59km of forestry, 8000 hectares of plantations, production of 20 million seedlings and rehabilitation of 8 forest reserves. To meet these targets, the FGN identifies afforestation, reforestation and conservation of bio-diversity and wildlife as the main measures. Specific strategies set out for implementation of programmes aimed at meeting the target include intensification of “Tree for Democracy” Campaign, effective implementation of environmental renewal/initiatives and participatory approach to achieving sound environmental standards.

The issue of participatory approach to protecting and conserving forest and bio-diversity brought to the fore, some salient questions. These questions include:

1. How do cultural practices and value system foster conservation in specific settings and how such cases can be encouraged and strengthened?
2. How does lack of recognition, understanding and use of Nigeria’s indigenous knowledge, technology and practices contribute to the degradation of the environment and bio-diversity loss? and
3. What knowledge do the people who would participate in the protection and conservation of forest and forest resources have for sustainable use of natural resources and how to explore alternative areas that lie outside nature?

The answers to these questions are embedded in educating the people. The strength of education in solving environmental problems has been made clear in Agenda 21 of the Rio Conference (Earth Summit) of 1992. Agenda 21 emphasizes the place of formal and non-formal education in resolving environmental problems. Community education as a tool for equipping the grassroot people with knowledge and skills on every issue that affect their existence falls within the purview of non-formal education. Thus, the writers believe that it has a role to play in resolving environmental problems especially, where and when participatory approach is employed. This paper therefore examines the roles community education can play in preserving and conserving forest and forest resources in Nigeria.

RURAL COMMUNITIES IN NIGERIA

Rural communities according to Ogili in Adekola (2013) have no simple definition but they exhibit characteristics that distinguish them from urban communities. Scholars in community-related disciplines have identified the different characteristics which formed the criteria upon which the definition of a rural community is based. Characteristics such as population size, interaction type, economic structure, behaviour pattern and communal behaviour and traditionalism have been identified as criteria upon which definition of rural communities is based and are associated with scholars like Ekong; Osuji; Ogili and Onyeozu (Adekola, 2013).

1. **Population Size:** A community is considered as a rural community if it has less than twenty thousand inhabitants. Osuji in Adekola (2013) argued that many settlements with more than twenty thousand inhabitants would not qualify as urban communities when other characteristics such as occupation, administration mode, physical and educational features are put into consideration.
2. **Interaction Type:** A community is considered as rural if interaction in the community is governed by the norms, values and ethics of the people. In this case, interaction is daily on a permanent basis, social cohesion is strong, cultural activities are well pronounced, cultural institutions are well respected and communal efforts are employed in resolving problems.
3. **Economic Structure** exposes a community as rural when a majority of the dwellers are farmers, fisher folks, artisans and petty traders with low per capita income, low per capita consumption, poor purchasing power parity and low literacy level resulting in their pronounced poverty and poor standard of living.

4. **Behaviour Pattern:** Rural dwellers are fatalistic and pessimistic in orientation. In being fatalistic, they attribute whatever that happens to them to fate and forces beyond their control and therefore believe that there is nothing they can do themselves to improve their lot or develop their community. Their pessimism manifests in their unwillingness to take initiative and seize opportunities as well as their reluctance to accept innovations and hence, resulting in their passivity and withdrawal.
5. **Communal Behaviour/traditionalism:** Rural community dwellers are tied to a large extent to extended family and community and subordinate themselves to their families, communal interests and extended family responsibilities. Rural people believe in traditional ways of doing things and their standard of judgement are based on the traditional norms and values handed down to them by their fore fathers.

Generally, however the criteria adopted in defining what a rural community means, Eheazu (1991) maintains that rural areas are characterised by a host of social and economic problems including rising populations, high levels of illiteracy, low economic returns for the majority of rural families, large numbers of school dropouts, excessive migration of rural youths to the townships, inadequate road networks and transportation systems for exchange of goods and services, unhealthy sources of water supply and lack of reliable sources of power and illumination. Another important fact about the rural communities is that 79% of Nigeria’s population lives in the rural areas where Nigeria’s forest areas are located and therefore are direct beneficiaries of forests and forest resources.

THE CONCEPT OF FOREST

Forest according to NEST (1991) is a piece of land dominated by woody species, majority of which are trees. The Advanced Learner Dictionary describes forest as large area of land covered with trees and often undergrowth. It also describes forest as area where game is hunted and preserved. Forests are vegetation types or plant formations in which trees are the dominant species. Forest can be seen as plant community, predominantly of trees or other woody vegetation, occupying an extensive area of land. In its natural state, a forest remains in a relatively fixed, self-regulated condition over a long period of time (Adam in Mbalisi & Ugwu, 2012). According to Mbalisi and Ugwu, three types of forests exist in Nigeria, namely:

1. swamp (mangrove) which is a forest type characterized by an entangled dense growth of stems and aerial roots (OnlineNigeria,2011). This type of forest is mostly found in the Niger Delta region of Nigeria;
2. tropical rain forest which are forests characterized by large number of plants species per unit area with rich species diversity but usually have smooth, straight trunks and large simple leaves (Peters in Ogunleye, Adeola, Ojo & Aduradola, 2004); and
3. Secondary forest is a type of replanted forest with one or more types of species of tree dominating. Examples include rubber and palm plantations.

FOREST RESOURCES

Resources are materials which man uses to satisfy his needs. Forest resources are materials in the forest which aid man to satisfy his needs and shape his destiny. They are grouped into timber and non-timber forest products.

Timber Products: These are woods (both hard and soft) exploited from the forest for cooking and heating, construction of houses, making of furniture, poles, baskets, boards, ply-woods and wood-pulp for making of papers and textiles.

Non-Timber Forest Products (NTFP): These are a wide array of economic or subsistence materials that come from the forest excluding timber. They range from food or food additives (nuts, mushrooms, wild fruits, herbs, spices, aromatic plants); plant materials (fibres, creepers and flowers); plant derivatives (raffia, bamboo, rattan, cork and essential oils); to animals (games, snails and bees); and animal products (honey, silk etc).

Benefits of Forests to Humanity

Man benefits from forests through the services forests provide which are social, economic and environmental in nature. Such benefits include among others, provision of:

1. woods for cooking, heating and construction;
2. environmental services such as air and water purification, watershed protection to control of runoff, soil stabilization, nutrient cycling, carbon sequestration (storage) etc;
3. recreational facilities such as game reserves, zoos etc;
4. Medicinal plants for the treatment of various types of ailment; and food in the form of non-timber forest products.

Mbalisi and Ugwu (2012) posit that the awareness of these forests benefits which contribute to a great extent to the development of socio-economic wellbeing as well as maintain good health conditions of human beings result into intense and unsustainable exploitation of forest resources for improved standard of living of human beings. This intense exploitation of forest resources leads to forest degradation, which is mainly in the form of deforestation.

MEANING OF DEFORESTATION

Deforestation is a deliberate removal of forest and other forms of vegetative covers from a site without replacement. It is the alteration of natural arrangement of trees, a process of depleting without reforesting the flora and fauna within the forest. It is a process whereby trees are felled for several purposes, but without replanting to replace the ones felled (Omofonmwan & Osa-Edoh, 2008; Nzeneri, 2010). According to Mongabay.Com (2010), 9.9% or about 9,041,000 ha of Nigeria is forested and of this, 2.38% (409,650 ha) is lost yearly between 1990 and 2010. Nigeria has lost a total of 47.5% (8,193,000 ha) of her forest between 1990 and 2010. The main cause of this forest loss (deforestation) has been attributed to unsustainable human activities on forest areas including logging, agriculture, urbanization, industrialization and high population growth (Salau, 1993; Bisong & Mfon, nd; Ogunleye *et al.*, 2004; Omofonmwan & Osa-Edoh, 2008).

1. **Logging:** Logging is removal of trees from the forest for the purpose of producing, using and exporting of timber. This practice does not only reduce the population of tree species in the forest but also damage or injure the unlogged trees thereby leading to their death. When this happens, tree crowns and canopies that provide shelter and protection to non-timber forest products in the forest are damaged thereby leading to their death. This eventually leads to extinction of all species of flora and fauna (plants and animals) in the forests leaving the forest area deforested.
2. **Agriculture:** Agricultural activities such as farming, livestock and monoculture plantation establishment start with forest clearing. This result in modification of the original vegetation which Allen and Barnes in Ogunleye *et al.* (2004) maintain occur in areas with heavy dependence on forest lands for subsistence and shifting agriculture largely found in developing countries. Ogunleye *et al.* (2004) and Salau (1993) identified farming activities such as bush clearing and burning, shifting cultivation as causes of deforestation in Nigeria.
3. **Urbanization:** Urbanization is a problem that is caused by high population growth rate and rural-urban migration. This involves increase in the concentration of human population in a particular location. This phenomenon requires large land for infrastructural development (such as houses, roads, schools, electric power stations, health centers and so on) to cater for the needs of the people in the densely populated location. Forests in this area are cleared in an attempt to provide these infrastructural facilities.
4. **Industrialization:** Establishment of industries is also another activity that involves forest clearing. Forests are cleared to construct buildings, access roads, car parks and other things required for the smooth operation of industries. Akachukwu in Onuche (2010) asserts that petroleum exploration, exploitation, and oil spillage are together destroying large areas of swamp forest in Nigeria. Industries also explore and exploit forest resources as raw materials for the production of goods and services peculiar to them. The exploitation and exploration most times is unsustainable which degrade the forest and its resources.
5. **High Population Growth** Forest resources (timber and non-timber forest products) sustain human life. So, increase in the population of human beings results in the increase in the rate of exploration and exploitation of forest resources. Onuche (2010) noted that exploitation that outstrips regeneration constitutes a threat to the sustainability of forest resources in Nigeria. Over-

exploitation may result from increase in the population growth rate accompanied by increase in the needs of people which are met with forest resources. To satisfy these needs, pressure is mounted on the forest and its resources resulting in over-exploitation. Salau (1993) identified rising demand for fuelwood, pulpwood, poles, and other types of wood for building purposes as reasons for much pressure on the forest. Stock in Onuche (2010) also identified fuelwood as the bulk of Nigeria's forest production, consumed as wood or charcoal to meet the demand for fuel in rural and urban neighbourhoods as the cost is cheaper compared to that of petroleum products or any other commercial fuel substitute. This according to Onuche (2010) has, over the years increased forest depletion.

Effects of Deforestation

Salau (1993); Omofonmwan and Osa-Edoh (2008); and Onuche (2010) identify the following as major effects of deforestation:

- i. Depletion of wildlife and biodiversity leading to loss of many non-timber forest products which sustain majority of the rural population. Biodiversity refers to the variety of all species of plants, animals and micro-organisms, their genetic make-up, habitats and ecological processes;
- ii. loss of soil fertility leading to scarcity of food which may invariably result in hunger and death of the poor;
- iii. erosion leading to destruction of properties, crops and animals;
- iv. Liquidation of wood-based industries due to unavailability of required quantity of wood needed as raw materials. This leads to unemployment of those that would have been employed by the liquidated industries;
- v. loss of foreign exchange accruable from export of timber products;
- vi. loss of medicinal plant materials;
- vii. loss of recreational potentialities and values of forests;
- viii. global warming and climate change due to increase in the concentration of green house gases since according to Salau (1993), forests constitute a major factor in carbon exchange with the atmosphere and after the oceans, are the biggest sink in which atmospheric carbon may be stored. As stated earlier, Nigeria's forests contain 1,085 million metric tons of carbon in living forest biomass;
- ix. desertification due to loss of trees that would have prevented wind from carrying sand across fertile lands;
- x. Flooding leading to loss of life, properties, plants and animals.

The need to protect our forests and their resources to ensure the continuity of the benefits and services provided by forests to human beings as well as forestall the phenomenon of deforestation and its excruciating effects on human beings call for community education with bias towards the environment in Nigeria.

COMMUNITY EDUCATION

Community education as a philosophical concept, a movement, a programme and process is defined by Minzey and Lefarte in Ume (1991) as:

A philosophical concept which serves the entire community by providing for all of the educational needs of its community members. It uses the local school to serve as catalyst for bringing community resources to bear on community problems in an effort to develop a positive sense of community prowess towards the end of self-actualization.

Community education according to Oduaran (1987) is a problem solving enterprise with emphasis in educational curriculum, programmes and services which aims at rejuvenating the abilities of community members for their socio-economic, cultural and political growth using all community facilities with educational purposes. Community education is also seen as an educational process that encourages the utilization of all learning resources within the community for the purposes of mobilizing the community's resources for its own development (Ume, 1991). It is a tool for equipping

the grassroot people with knowledge and skills on every issue that affect their existence. According to Ume (1991) community education has the following qualities:

1. Capacity to engender self-reliance;
2. A propensity to encourage caring and sharing;
3. Opportunity for community mobilization for community action; and
4. A built-in problem solving potential in its process.

Significance of Community Education for Forest Conservation and Preservation in Nigeria

The significance of community education of rural dwellers for forest protection will be identified from the answers to the following questions as posed by the writers thus:

1. Community education of rural dwellers for forest protection for what?
2. Are the activities of the rural dwellers within the forest areas capable of degrading the forest resources? And
3. The poor and the rich, who degrade the forests with their activities?

It is agreeable that over 70% of Nigeria’s population dwells in the rural areas of Nigeria and therefore are close to Nigeria’s forest areas. While many of the rural dwellers engage in various artisanal and handicraft activities (e.g tannery, carving, weaving, sculpturing, blacksmithery, metal works, masonry etc), the generality are agriculturists (mainly farmers, fisherfolks and herdsmen) (Eheazu, 1991; Ogili in Adekola, 2013). But Eheazu regretted that the preponderance of rural adult agriculturists does not lead to a comparatively high productivity. This means that rural people engage in agricultural and other allied activities at a subsistent level which may not be capable of (population notwithstanding) destroying the forest and forest resources.

It is in this vain that Ekpenyong (1998) identifies affluence of external groups, chiefly the industrialized countries whose demands, the products of African forests are used to meet as a major cause of forest degradation, especially deforestation. The industrialized countries due to their affluence lend money in billions of United States of America’s Dollars (USD) in pretence of helping them (less developed countries) solve their problems with an understanding of paying back with their natural resources which forests are one. This practice entraps the debtor countries into a huge debt. Ekpenyong (1998) laments that in the face of such huge debts and incredibly high debt-service ratios, the countries concerned are ready to mortgage their forests and resources, and as a result, they put aside any concern for conservation and environmental protection. The creditor countries, whose affluence rather than their population size determines their consumption at the expense of the debtor countries over-exploit the resources to meet their demands. In a similar submission, Cortese (1991) identifies a high rate of per capita resource use of persons in the industrialized countries of the North and the resulting high levels of pollution and environmental degradation per person as a key factor determining overall environmental impact. According to him, an average American citizen consumes 50 times as the average citizen of India and 100 times as much as the average person in the world’s poorest countries. He went further to assert that poor parents in poor countries would need 50-200 children to have the same lifetime environmental impact as two children in a typical American family.

With this background revelation, one can comfortably argue that though the rural dwellers are greater in number than the urban dwellers and as well live closer to the forest areas, their cumulative activities may not be capable of having any significant negative impact on the forest ecosystem. Activities such as timber logging, mechanized agriculture, construction and other developmental activities which degrade the forest ecosystem are embarked upon by and benefit the rich and the elites who live in the urban areas with little or no benefits accruable to the poor who constitute the rural dwellers. Ironically, the rural dwellers suffer tremendously of any form of environmental degradation (pollution, deforestation etc) because it is their main source of existence that is destroyed. When a forest is destroyed, medicinal plants with which the rural dwellers treat their ailments, non-timber forests products which serve as food and animal which serve as a source of protein to the rural dwellers are destroyed. Environmental services such as purification of air and water which is provided by the forest comes to a halt. This phenomenon puts the lives of the rural dwellers to the danger of extinction.

It is this phenomenon that makes the community education of the rural dwellers for forest conservation and preservation significant whether or not their (rural dwellers) activities contribute to

the degradation of the forest ecosystem. This significance lies in the ability of community education to effect qualitative social change in the form of seeking solutions to the community's problems by targeting a social problem such as environmental degradation in general and deforestation in particular.

Community education derives its operational philosophy from Paulo Freire's conscientization theory. Conscientization according to Freire in Jarvis (1999:84) is:

a permanent critical approach which empowers people to discover reality, the myth that deceive them as well as help to maintain the oppressing dehumanizing structures and then act to transform the oppressing dehumanizing structures in which they find themselves.

Freire according to Ume (1991) and Jarvis (1999) emphasizes from his conscientization stand point that education must recognize the fact that man as a being of praxis is capable of assessing his environment and reacting to it through action and reflection, in the way of positive utilization of the resources available within it. Okeem (1987:87) interprets conscientization to mean “a process of raising up of the overall general level of awareness of the target group or community so that they will begin to really and fully understand the forces that impinge on their lives”. According to him, they will through conscientization be encouraged to discuss and understand alternative solutions to the problems that may exist and do things themselves and not to wait for any government or someone else to come and do anything for them while they sit idly by. Okeem sees conscientization as a psycho-social approach to solving problems. In his words:

Conscientization seeks to involve the participants emotionally or psychologically and, at the same time, elevate their level of social consciousness, therefore, of awareness of their overall social situation. Thus, they would better understand the forces that impinge on their life situations be they social or cultural, political or economic forces. Above all, through an honest discussion or dialogue, they find realistic solutions to their various problems and what more, they go out to proceed to put that solution into action. In that way, the participants themselves can find realistic solutions to their various problems without waiting for any ‘big brother’ to come and solve their problems for them (:87).

When this approach is applied to community education of the rural dwellers for the conservation and preservation of forests, they will be properly mobilized and empowered to discuss and understand the implications of their activities and that of other external agents on the forest ecosystem. In the process, the knowledge of deforestation will be developed in them, its dynamics, causes and effects will be brought before them and hence, they will be motivated to rise up against individuals, institutions, structures and activities that encourage the degradation of the forest ecosystem through deforestation.

Components of Community Education for Forest Conservation and Preservation in Nigeria

There is no gainsaying and therefore worthy of note that knowledge derived from our earlier discussions identifies community education as a community-based approach to environmental adult education. Therefore, it will be necessary before we proceed, to draw our attention to the meaning of environmental adult education. Environmental adult education is a process through which adult individuals gain awareness of their environment and acquire the knowledge, values, skills, experience, and the determination which enables them to act individually and collectively to solve present and future environmental problems as well as meet their needs without compromising those of the future generations (Mbalisi, 2013). Community education for forest conservation and preservation is one with bearing on the environment and as a result, relevant programmes of environmental adult education through which the rural dwellers can be educated on the environment and its associated problems have been identified to include:

1. environmental literacy education;
2. civic adult education; and
3. vocational adult education.

Environmental Literacy Education

Environmental literacy is one of the forms of literacy which based on Akinpelu's (2002) alphabetic literacy. Akinpelu (2002) describes the ability to read and write alphabets, words and simple

statements as alphabetic literacy. Environmental literacy according to Desinger and Roth (1992) is the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore or improve the health of those systems. It is the ability to acquire knowledge and understanding of a wide range of environmental concepts, problems, and issues, a set of cognitive and affective dispositions, a set of cognitive skills and abilities, and the appropriate behavioural strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental context.

Literacy programmes designed under community education approach can be used to develop in the illiterate rural people the skills of reading and writing simple words and statements which will empower them to read and write issues associated with their surrounding environment. With the skills of reading and writing, they will be able to read and acquire knowledge and understanding of the nature of their forests, the components of their forests and measures that shall be taken to protect, conserve and preserve their forests. At the same time, they will be empowered to rise up to resist actions and activities that will lead to deforestation of their forests, having understood what would be the impact on them. It is by so doing that they can be considered to have become environmentally literate persons. Environmentally literate persons are those among others who exhibit the following characteristics:

1. knowledge of relevant environmental concepts;
2. knowledge of environmental issues and problems;
3. concern for the quality of the environment;
4. environmental sensitivity (feeling of concern for and empathy toward natural areas);
5. knowledge of action strategies that may be used for resolving an issue;
6. Beliefs and values (beliefs are what individuals hold to be true, and values are what they hold to be important regarding problems/issues and alternative solutions/actions strategies);
7. skills in using action strategies;
8. commitment to take action; and
9. internal locus of control (the belief and /or feeling that working alone or with other individuals can influence or bring about desired outcomes through his/her actions).

Similarly, Hollweg, Taylor, Bybee, Marcinkowski, Mcbeth and Zoido (2011) gave broader characteristics as they maintain that those who are environmentally literate possess to varying degrees:

1. The knowledge and understanding of a wide range of environmental concepts, problems and issues;
2. A set of cognitive and affective dispositions;
3. A set of cognitive skills and abilities; and
4. Appropriate behavioural strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental contexts.

Vocational Adult Education Programme

It has been noted earlier that rural dwellers are predominantly artisans and agriculturalists, who live closer to the forests and depend mainly on forest resources for survival. Vocational adult education is a process of developing the adult individuals for social, economic and occupational competence. That is, it is a process of preparing adults for entrance into the world of work (Venn, 1980). Hassan and Oyebamiji (2012) see vocational education as an adult education programme provided for the clientele in order to be conversant with the theory and practice of vocation as with a view to enabling the person to be in position to offer technical expertise, knowledge and skills to those who are in need of it.

This therefore suggests that community education approach to environmental conservation should incorporate programmes that will educate the rural people on sustainable ways of exploring,

exploiting, transforming and utilizing forests resources on which they based their survival without destroying the forest ecosystem. Such programmes biased towards environmental conservation and preservation, encourage the adults (rural dwellers) to adopt environmentally friendly approaches in the practice of their occupations. It should be designed to recognize the illiterate adult (a rural dweller) as a member of the society whose socio-economic activities could mar or improve the environment in which he or she lives or works. Vocational adult education for effective environmental adult education under the framework of community education exposes the consequences of socio-economic activities of adults (both urban and rural dwellers) on the environment, hence cautions them on the impending danger as well as empowers them to forestall the danger.

Applications of Vocational Adult Education

Vocational-oriented community education with focus on the environment is applied in the conservation and preservation of environmental resources in the following ways:

1. rural dwellers are exposed to the alternative trade opportunities offered by the forest such as carbon-trading;
2. rural dwellers are exposed to forests resources through which they can earn a sustainable living; and
3. sustainable ways of exploring, exploiting, transforming and utilizing forests resources are inculcated in the rural dwellers.

Civic Adult Education

Civic adult education is education for social and public responsibility which reflects programmes designed to develop understanding and knowledge of the public issues and problems facing any nation and its citizens domestically and internationally in political, economic and social areas (Power, 1970). Civic adult education within the framework of community education for the conservation and preservation of forests and forest resources raises the level of commitment and sense of responsibility of the rural dwellers for active participation in actions geared towards forests conservation and preservation. Programmes such as civic adult education designed for understanding of ecological and ecosystem problems will go a long way in making an adult learner a better citizen of the world. Such programmes are designed to cater for information needs of adults in the management of the environment especially information in the area of pollution and destruction of wildlife habitat through deforestation (Eheazu, 2005). Civic adult education is education designed to adult citizens with skills to undertake their civic responsibilities and perform other social roles. Part of such civic responsibilities and social roles is environmental protection.

Civic adult education is a veritable tool used to make the rural dwellers gain understanding and consciousness of the fact that their health is inextricably linked to environmental quality and are therefore motivated to take actions that will ensure the protection and maintenance of environmental quality, especially, ones which protect the forest ecosystem. Such actions as adapted by Mbalisi and Ugwu (2012) from UNESCO (1986:52) are grouped into four major categories of persuasion, consumerism (consumer action), political action, legal action and eco management action.

1. **Persuasion:** This involves convincing oneself and others on ways of exploiting forest resources without tempering with ecological make-up of forests ecosystem. It also involves discouraging actions that dislodge the diversity of forest ecosystem which makes the forest ecosystem to lose its aesthetic, economic and natural values.
2. **Consumer Action:** This involves purchase of forest products (timber and non-timber forest products) that are sustainably exploited. It also involves finding alternatives to forest products, an action which will help to a greater extent reduce pressure on forest resources.
3. **Political Action:** This involves preparation of legislative bills that will ensure conservation, maintenance and protection of the forest and its resources as well as lobbying for the passage of the bills into law. This also involves persuading representatives of the common people in the legislative arm of government either to sponsor legislative bills or support bills meant to protect the forest and its resources.
4. **Legal Action:** This involves instituting a law suit against any violators of laws on forest conservation, maintenance and protection.

5. **Ecomanagement:** This involves participating in activities that will ensure protection, conservation and maintenance of the forest and its resources. Such activities may include afforestation, reforestation and mounting of guard.

The responsible environmental actions manifest in sustainable lifestyle choices with regards to exploration and exploitation of forest resources. The lifestyle choices according to (Eheazu, 2005) may include the following:

- i. selective utilization of available forest resources;
- ii. reduction in the rate of deforestation;
- iii. identification of alternative sources of resources; and
- iv. Regeneration of already utilized resources or their alternatives.

CONCLUSION

It is true that over 70% of the total population of Nigeria lives in the rural areas. One will be free to say that they live closer to nature since they are closer to the forest, and hence, derive their livelihood requirements from the forest ecosystem. Arguments of different scholars in the literature reveal that though the rural dwellers live close to and derive their livelihood requirements from the forest ecosystem; their activities may not be capable of degrading the forest ecosystem. This may be because, they explore and exploit the forest resources within the carrying capacity of the ecosystem.

The cause of the degradation of the forest ecosystem was credited to the unsustainable mode of exploration and exploitation of forest resources to satisfy the demands of the rich in the cities and countries of the North (developed countries). The understandable reason here being that forest resources are explored and exploited beyond the carrying capacity of the forest ecosystem leading to the degradation of the forest ecosystem. It was noted earlier that it is the rural dwellers who suffer the immediate direct impacts of forest degradation.

The paper therefore identified community education as a practical community-based approach to environmental adult education which is required to raise the consciousness of the rural dwellers over the consequences of the degradation of the forest ecosystem on them as well as develop in them a sense of responsibility and which also motivate them to take actions to forestall activities whether internal or external that will lead to the degradation of the forest ecosystem. The Paper therefore concludes that community education of the rural dwellers for forest conservation and preservation is significant whether or not their (rural dwellers) activities contribute to the degradation of the forest ecosystem.

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