

**ENVIRONMENTAL EDUCATION: A VERITABLE TOOL IN THE  
MANAGEMENT OF FOREST AND WILDLIFE RESOURCES IN NIGERIA**

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**Abstract**

Forestry and wildlife offer challenging prospects, both for economic growth and social development. Often, however, its many-sided developmental role is appreciated insufficiently. With only 2 per cent of the total area of the country under productive high forests, forestry and forest industries have been and could continue to be an economic pacemaker. In addition to the exports of cocoa, groundnuts, cotton and palm produce, forest products have been the mainstay of the country's favourable balance of payments in the past. Of all the Nigerian exports, wood products command the highest range of international currencies. The forest and wildlife also provide raw materials which satisfy local consumer demands and investment needs. Forest exploitation cum wildlife and the resulting industries create employment and increased earnings which are essential objectives of economic development policies. However, the forestry economic boom that had occurred was in response to overseas demands while the benefits of value added accrued to foreign-based investors. The recent rapid economic development has generated a great deal of wood-processing activities, particularly at the primary stage of sawmilling. Present wood requirements are exceedingly large and there would probably be a shortage before very long. Yet, there are needs for the restoration of the national forest-cover that go far beyond the need to balance wood demand and supply. This paper looks at the following as awareness creation, Knowledge and skill acquisition, participatory decision making and change of attitude/behaviour as veritable tools in the management of forest and wildlife resources in Nigeria.

**Keywords:** Forestry, wildlife, awareness creation, participatory decision making, attitude/behaviour, Nigeria.

## Introduction

Environmental Education, as was first defined by the International Union for Conservation of Nature (IUCN) in 1970, includes the element of behaviour; the idea that through knowledge, changes in behaviour at a personal, societal and global level will occur (IUCN, 1970). Environmental education aims to provide learners with the opportunity to gain an awareness or sensitivity to the environment, knowledge and experience of the problems surrounding the environment, to acquire a set of values and positive attitudes, to obtain the skills required to identify and solve environmental problems and, the motivation and ability to participate (Thathong, 2012). Education is critical for promoting sustainable development and improving the capacity of the people to address environmental and development issues. Both formal and non-formal education are indispensable to changing people's attitudes" (UNESCO, 1992).

Human activities as a result of search for quality standard of living through science and technology have brought problems on the environment. Such issues include over population, greater pollution, the death and destruction caused by toxin spills and dumps, the massive deforestation of the world forest for commercial purposes, the harm caused by numerous oil spills, the destruction of wildlife habitats for human development amongst others. These activities also occur in Nigeria and leads to lots of environmental crisis or consequences such as loss of biological diversity, threat to food security, destructions due to flooding, soil erosion, desertification, poor environmental health, social unrest due to limited water and land rights. However, the Nigeria government proposed various strategies to curb these crises such as abatement measures, legislation and policies but little or no change was realised. This could be attributed to the fact that ignorance, poverty, greed and over population are majorly responsible for human anti-environmental behavior and actions in the country.

According to Thathong (2012), those previous strategies proposed were more of control and treatment rather than prevention. Consequently, these environmental crises can be seen to emanate mainly from human activities due to their attitude and behavior towards nature. Therefore in resolving such problems, special attention needs to be placed on increasing the knowledge of the populace and thereby inculcating a positive attitude and behavior towards the environment. This can be achieved by effective implementation of environmental education. Thus, Nigeria among other African countries began to realize the role of environmental education in solving environmental issues. In 1990's the Nigerian Ministry of Education embarked on National Environmental Education program in schools towards sustainable development. However, Environmental Education is seen as a process of infusing into the educational system environmental content in order to enhance the awareness of the people on environmental issues at all levels of education. It is an approach to education which is hoped to bring some solutions to the deteriorating relationship between man and the environment.

According to the North American Association for Environmental Education as cited by Thompson and Hoffman (2003), Environmental Education is learner centered; providing students with opportunities to construct their own understanding through hands on, minds on investigations, involves engaging learners in direct experiences and challenges them to use higher order thinking skills, is supportive of the development of an active learning community where learners share ideas and expertise. Palmer (2000), stated that the special feature of environmental education (EE) is that the knowledge of environmental laws and principles of functioning of the natural system are studied within the environment which help to develop practical skills and the ability to make assessment of the state of the environment.

The awareness of the negative impacts of mankind in the natural environment has risen remarkably and environmental policies and programmes worldwide have been developed. People are more aware of their own impact on the environment in their everyday life and in parallel, their influence on the way their local community is run. The idea emerged, covering two aspects which are to inform people of environmental system and educate them so that they can adopt a more responsible attitude towards the environment. During the 1970's a great effort was jointly made by UNESCO and UNEP to put environmental education higher on the agenda, to define its scope, to state clearly some quality measures and guidelines and to promote Environmental Education. Thereafter, Tbilisi Declaration gave the most widely recognized definition for Environmental Education when they defined Environmental Education as "a learning process that increases people's knowledge and awareness about the environment and associated challenges, develop the necessary skills and expertise to address the challenges and foster attitudes, motivations and commitments to make informed decision and take responsible action.

Furthermore, the European Resolution on Environmental Education (1988) stated that the goals of Environmental Education are to increase the public awareness of the problems which exist in the field, as well as possible solutions and to lay foundations for a fully informed and active participation of the individual in the protection of the environment and the prudent and rational use of natural resources.

However, in a world where it is increasingly challenging to get students interested in classroom lessons, Environmental Education offers an enriching way for both students and teachers to connect their appreciation of the natural to academic, it creates enthusiastic students. Environmental Education helps build critical thinking and relationship skills among students. It also helps students learn important life skills such as cooperation and communication. Moreover, Archie (2003) stated that when students learn through a problem or project based approach as proposed in Environmental Education, they tend to gain better understanding of what they learn, retain it longer and take charge of their own learning. However, there is the need to instill the knowledge of the use of environment to the children in primary, secondary and higher institution. Hence the incorporation of Environmental Education into primary and secondary school curriculum in Nigeria is a way of enhancing the people's awareness of the danger of environmental issues. It is also believed that this awareness and incorporation of Environmental Education into all curricula at every grade creates a more comprehensive treatment of environmental issues (Jekayinfa and Yusuf, 2008). In this regard, in Nigeria, the National Educational Research Development Council (NERDC) now the National Educational Research Council NERDC (1992), proposed the goals and objectives of Environmental Education in the country, and they include

1. To enable young people to participate in decision making related to environmental issues
2. To enable learners to develop operational understanding of some of the basic concepts and processes relating to environmental issues e.g. pollution, deforestation
3. To develop the ability to enquire into problem situations associated with the environment
4. Taking into account social and cultural factors of the people and suggesting solutions in achieving these goals, Environmental Education is taught in schools as an infusion of several Environmental Education themes into existing school subjects in the primary and secondary schools in the country. Although the secondary school syllabus contains no specific subject on Environmental Education except with

sketchy mention in geography, social studies and agricultural science (Robinson, 2013). While in tertiary education level, it is taught as a separate, specialized or part of the general studies subject in Nigeria. For this research, the federal University studied offers environmental education as a specialized course. Therefore base on the notion that the course is still at its infancy stage, the urgency in developing specialist in Environmental Education to increase the environmental literacy of the citizens and the need to inculcate in the students a positive attitude and behavior towards the environment and environmental education. Also with the fact that teachers are seen as the link between the ignorant world of their audience and their later knowledge and mastery of their field, it is therefore mandatory to assess the attitude of these prospective Environmental Educators. Thus these teachers determine the success or failure of the proposed environmental education curriculum goals in the country. Therefore, the researcher seeks to investigate the level of knowledge and the attitude of the prospective environmental educators towards the environment. Thus this study will help ascertain whether their attitude influence their readiness to take part in environment and environmental education activities as expected in the country.

## **Veritable Tools For Environmental Education**

### **Awareness Creation as a Veritable Tool**

Awareness creation has been a veritable tool for the management of forest and wildlife resources in Nigeria. There has been increased public awareness of natural resource policy, including forest management. Public concern regarding forest management may have shifted from the extraction of timber for earning money for the economy, to the preservation of additional forest resources, including wildlife and old growth forest, protecting biodiversity, watershed management, and recreation. Increased environmental awareness may contribute to an increased public mistrust of forest management professionals (Shindler and Lori, 2009). But it can also lead to greater understanding about what professionals do for forests for nature conservation and ecological services. The importance of taking care of the forests for ecological as well as economical sustainable reasons cannot be overemphasized.

Many tools like GIS and photogrammetry (Balenovich, 2011; Balenovich, 2012) modelling have been developed to improve forest inventory and management planning. Since 1970, the volume of standing trees in Nigeria have increased by 90% due to sustainable forest management (Mozgeris, 2008).

### **Knowledge and skill acquisition as veritable tool**

Knowledge and skills acquired in the ICT world improves the efficiency of accessing information. Access to information in the forest sector has remained defective. Institutions with forestry information especially in developing countries seldom attach patent rights and ask for cost recovery fees, even for information already paid for by government and development partners (Nsita, 2010). The Nigerian Telecommunications Act, 2003 established the Nigerian Communications Commission (NCC) and the rights and duties of the state, enterprises, institutions, organizations and individuals in the use and management of the means of communication, in the establishment and management of communications networks, in the rendering of communications services as well as the general responsibilities if there is violation of the law. The forest sector has not exploited this opportunity in the use and management of its information dissemination. For example dedicated radio systems, TV, Satellite and FM Radio Station can be used for publicizing

and tracking illegal activities. The Press and Information Bill had been enacted into law since 2011; yet, forestry has the least share in the print and electronic media. There are ample opportunities for forest resources managers to advocate for more space to cover issues of forest sector development in the Nigerian media. However, the forest sector managers in the country have not exploited this opportunity to attract media coverage.

### **Participatory decision making as veritable tool**

Participation and decision making have become a popular means of information collection in wildlife resources in Nigeria. The usual procedure is for small groups of local people to be brought together, and asked to draw a map of their village and its surrounding resources, perhaps focusing on an aspect of particular interest to the facilitator(s), such as the use of forest products, water supplies, or livestock grazing patterns. A number of groups, divided on the basis of gender, age, and (if appropriate) ethnic group or caste, may be asked to draw such a map for comparative purposes. The map is commonly drawn on the ground, using materials which come to hand (stones, leaves, ash, twigs, etc.) to mark key features. The results are then copied onto paper for discussion and future reference, although where local people are comfortable with the use of coloured pens and paper, these media may be used to create the map. As developed in this context, participatory mapping has been used (often more for research purposes than as a precursor to development activities) to gain a deeper understanding of local people's perceptions of their environment (case examples include Thathong (2012)). The geographical accuracy of the map does not matter - indeed, it is of particular interest to the facilitators to note what features of their environment local people emphasize, making larger than reality, and what they consider unimportant - perhaps forgetting to mark onto the map altogether. It is common for wide differences to become apparent between men and women perceptions of their surroundings, and the importance they attach to different natural resources. Differences between old and younger members of the community may also be revealed, and between members of different ethnic groups or castes. These can serve as interesting issues to raise in subsequent village/community discussions over resource management.

Local people often express a desire to manage their forest in a 'good', 'wise' or 'responsible' manner, so that it will be available for future generations. At the same time, they wish to be able to harvest some products, either for subsistence or to gain an income. This implies sustainable management, even if not expressly defined as such by the people concerned. As noted earlier, sustainable forest management is a difficult management goal but one which in all cases demands a sound management plan. What this comprises is outlined briefly below. A management plan for an area of forest generally takes the form of a description of the forest, a statement of management objectives, and then an outline of how these objectives will be achieved. If the forest is to be managed by local people, it should ideally also contain a section setting out how the people will organise themselves in their responsibilities - relating these to the achievement of management objectives. Obviously in participatory forest management, the entire plan of management should be drawn up by, or in close collaboration with, the people concerned.

New strategies such as 'community conservation' or participatory management have been developed in response to the general belief of many conservationists that PAs are likely to fail unless local communities are to some extent involved in conservation efforts (Yeo-Chang, 2009). Strategies to reconcile differences between local residents and Primary Agencies needs encourage community participation in natural resource management while improving their economic comfort. More often than not, wildlife

conservation in Africa is presented in terms of a win-win discourse involving community participation and benefits (Benjaminsen and Svarstad, 2010).

### **Change of Attitude-behaviour as a veritable tool**

For an education programme to achieve a more long-lasting effect and consequently, conservation success, a change in attitudes, behavioural intention, and ultimately behaviour has to occur. Attitudes have been defined as people's "feelings, values or beliefs" (Henerson, M., Lyons, M. & Taylor, F. G. 2009), whilst behaviour is "the decisions, practices and actions of people, as individuals and as groups" (Byers, 2006). There is evidence that livelihood activities and outreach programmes, undertaken as part of protected area management schemes, may have a conservation impact by helping to change both attitudes and behaviour (Abbot, J., Thomas, D., Gardner, A., Neba, S. & Khen, M. 2001). This is understandable as attitudes of local residents are often influenced by the costs incurred from conservation initiatives, therefore programmes established to reduce or relieve these costs should go some way to reversing negative opinions.

### **Conclusion**

Environmental Education as a course of study has come to stay in Nigeria school system especially the higher education sector, although more needs to be done to sustain the trend. This study revealed that environmental education students have a level of knowledge towards the environment and also on the contents, goals and objectives of Environmental Education in Nigeria. They also possess a positive attitude towards the natural environment. Thus, this positive attitude and high level of knowledge reveals that the human and material resources in Nigeria have a great impact on the learners. Meanwhile there was little or no relationship between their knowledge and their attitude towards the environment. Hence this study reveals that environmental literate learners are being nurtured to foster environmental education in the country, although more needs to be done to encourage the learners and promote the course of study in the country.

### **Recommendations**

The following recommendations are proposed by the researchers based on the findings from this study.

1. There should be increased awareness raising avenues on environmental education towards the general public.
2. Environmental education contents should be introduced into the general studies curriculum in tertiary institutions in the country.
3. Research grants and scholarship opportunities should be provided for lecturers and students of environmental education in the country.
4. There should be full and effective implementation of environmental education in the Nigeria school system.

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