

ENVIRONMENTAL EDUCATION - A DESIDERATUM IN NIGERIA'S TERTIARY EDUCATIONAL INSTITUTIONS IN THE 21ST CENTURY

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Abstract

It is generally now appreciated that development must be environmentally sound, to be economically sustainable. Competencies for the protection of the environment however include knowledge and skill, which can only be acquired through education and particularly environmental education. This paper addresses the need and place of environmental education in Nigeria's tertiary institutions. The history, principles and objectives of environmental education were also highlighted.

Introduction

According to Webster's new reference library, the word *desideratum* means 'something needed and desired'.

The communiqué of the 2002 African Regional Conference on progress and future directions of higher education in Africa stated that by 2003, African member states should ensure that the curricula of higher education institutions are reviewed in cases where these curricula are yet to fully respond to socio-economic demand of the community and the demands of globalization.

UNEP (1997), advised that environmental educators and managers should seek the involvement of colleges and universities in assessing the consequences of adopting new environmental technologies.

United Nations Conference on Environment and Development (UNCED) (1992), in section 8.10: enhancing education and training recommended that Countries, in cooperation, where appropriate, with national, regional or international organizations, should ensure that essential human resources exist, or be developed, to undertake the integration of environment and development at various stages of the decision-making and implementation process. To do this, they should improve education and technical training, particularly for women and girls, by including interdisciplinary approaches, as appropriate, in technical, vocational, university and other curricula. They should also undertake systematic training of government personnel, planners and managers on a regular basis, giving priority to the requisite integrative approaches and planning and management techniques that are suited to country-specific conditions.

Adara (1993), stated that the 1991 National Curriculum Review Conference which appraised the curriculum of the nation's educational system in Kaduna was unanimous in noting the absence or deficiencies of Environmental Education elements in the various school syllabuses particularly most of secondary and tertiary level.

Aina (1990), also noted that the communiqué issued at the end of 1989 International Seminar on Petroleum Industry and Nigerian environment, held at Effurun, called on the National Universities commission (NUC) and National Board for Technical Education (NBTE), to support and encourage the development of curricula in Environmental Education at University and Polytechnic levels using the Integrated and holistic approach.

The Environmental Management workshop for socio-economic development in Nigeria organized by the Federal Ministry of Budget and planning (FMBP) in collaboration with the Federal Environmental Protection Agency (FEPA) in May 1991, and the NERDC Workshop to Develop Strategies for integrating Environmental Education in Teacher Education programme in Nigeria, are also part of such efforts that were aimed at fashioning out national plans of action to combat environmental problems through the incorporating of environmental issues in national development plans and also through curricular and teacher Education Programmes (NERDC 1992).

The world conference on Higher Education convened by UNESCO in Paris, 5-9th October 1998 undertook an exhaustive analysis of the challenges facing higher education in contemporary society and its declaration and framework for action were intended to serve as a framework for further analysis for review at various other level.

Higher Education and Skill Development as Aids to Environmental Consciousness

The current thinking worldwide is that higher education should develop in the beneficiary a certain number of generic skills to a level that will ensure the continued creative productivity of the individual, Obanya (2002), listed the skills as follows:

- ❖ Analytical power an advanced capacity for logical reasoning, employing appropriate verbal, quantitative, graphic, documentary, audiovisual, sensory perceptions and a wide variety of tools.
- ❖ Communication: Oral and written (as well as in other possible forms) using the appropriate language and non-verbal forms in specific situations to achieve specific objectives
- ❖ Problem solving: The ability to task ones-analytic power to the maximum in developing possible solution path to problems in a wider variety of situations.
- ❖ Team spirit; The ability to contribute meaningfully to group activities in a wide variety of forms to relate to others, to get out of one's shell while remaining oneself.
- ❖ Creativity: The ability to go beyond the well-trodden path, in thinking as well as in action
- ❖ Versality: A broadened horizon in terms of domains of knowledge and Competence.
- ❖ Life long learning skills; Perseverance, risk-taking, a spirit of enquiry, reading as a habit, self-directed learning efforts, the ability to face challenges etc.
- ❖ Information Technology (I T): as a discipline in its own right, as a tool for and support to other disciplines and life activities

The Nigerian Environment and the Need for Environmental Education in the 21st Century

Nigeria as a geographical entity with a population of about 130 million people has been exerting immense pressure on its physical environment for a very long time. The Nigerian environment has over time, experienced changes dictated by both internal (i.e. national) and international socio-economic and technological activities; some of which are either detrimental to or incapable of supporting a sustainable development. This phenomenon should be of concern to the government, educational planners and people of Nigeria, given that the survival of the nation depends to a large extent on viability and durability of the environment, particularly its natural resources.

Conscious of these facts and committed to the engendering of a virile environment, the government, non-governmental agencies, research institutions, international organizations, public spirited associations and individuals have demonstrated their interest in caring for the environment. Many studies, workshops, seminars and conferences have been conducted with a view to finding solution to some of the environmental problems facing the nation.

The Nigerian environment, according to the NERD (1992) report, is in a constant state of degradation as exemplified by the following persistent local problems:

- Land and soil degradation,
- Air and water pollution/industrial pollution
- Deforestation and desertification.
- Loss of biological and wildlife species and reduced biodiversity.
- Coastal and land erosion
- Resource depletion and population pressure
- Spread of water hyacinth.
- Toxic waste mismanagement.

The report further noted that the major factors contributing to the environmental degradation are:

- Increasing and spatial distribution of human population.
- Environmentally unfriendly production processes of industries.
- Non-sustainable consumption patterns.
- Disoriented value system for the environment
- Inadequate environment ethics.

- Low level of environment awareness, knowledge skills and actions (Adegbola 1992 p.2).

Adeniyi (1999), opined that, these problems and the factors responsible for them have major implication for curriculum development in favour of environmental education of the citizenry especially in higher education.

The Place of Environmental Education in Tertiary Institutions in Nigeria

Okebukola (1993), defined Environmental Education as the process of acquiring or transmitting knowledge, attitude and skills for the sustainable use of natural and man-made resources.

Orji (1993), noted that Nigerian Conservation Foundation (NCF) pioneered the development and promotion of Environmental Education in Nigerian formal school system especially at the tertiary level under the auspices of the World Wide Fund for Nature (WWF). NCF/WWF established Environmental Education Units in the College of Education Ekiadolor Benin and the University "of Calabar. The Environmental Education Unit of Calabar became operational in 1991, starting with the Ordinary Diploma, and Post Graduate Diploma in Environmental Education. University of Port Harcourt, in 2003, started offering Environmental Adult Education for Masters and doctoral programmes only. It is gladdening to note that National Commission for Colleges of Education (2002), in reviewing minimum standards for NCE colleges has included a sizeable number of environmental education courses in some programmes especially integrated science.

These are:

- 1) Components of the Environment 1 (non-living aspects of the environment. 2 }
Components of the environment I 1 (living things)
- 3) Environment and Population
- 4) Man and Energy 1, 2, 3.
- 5) Transport, Control, and Development of living things 1 and 2.
- 6) Man and environment
- 7) Fundamentals of living things
- 8) Global Ecology 1 and 2.
- 9) Science and Society

Environmental Education is interdisciplinary and holistic in nature. The main task is reorienting the teachers who are involved in the teaching learning process, to be able to teach it effectively. A graduate of single subject discipline may have some problems in teaching students about the environment.

Principles of Environmental Education: A Guide in the 21st Century

In each discipline, there are principles to guide its organization and implementation. EE is not an exception. The Intergovernmental conference organized by United Nations Education scientific and cultural organization (UNESCO) in collaboration with United Nations Environmental Programme UNEP (1989), endorsed the following guiding principles for EE.

1. That the Environment should be considered in its totality when talking about EE. This means that consideration should be given to the natural and man-made environment. Other aspects of the environment such as cultural, technological, political, moral and aesthetic should also be considered.
2. That EE should be a life-long process, continuing throughout the life span of an individual from pre-school age to school or out of school situation. It should not be limited to only the formal school setting.
3. It should be interdisciplinary in its approach. EE should draw on the specific content of each discipline in making possible a holistic and balanced view of the environment.
4. EE should emphasize active participation in prevention of environmental problems, and working towards their solution. Participation here should involve everybody.
5. EE should examine major environmental issues from local, national, regional and international points of view. This will help learners to have an insight into environmental problems and issues of other areas. It will also broaden the learner's scope of

knowledge in thinking both locally and globally to solve environmental problems.

6. It should focus on current and potential environmental situations. In looking at environmental issues, the learners should go beyond the current problems and think of the future problems. This will lead the learner to look beyond what he can get for himself today to what the future generations will get from the same environment.
7. It should emphasize the complexity of environmental problems and the need for critical thinking and problem solving skills. This means that-the learner should be led to gradually understand how complex environmental problems are by understanding for example that the total destruction of the rainforest in Nigeria will not only affect Nigerians but also citizens of other countries could be affected.
8. In teaching about EE, diverse learning environments and broad array of educational approaches to teaching and learning should be used to learn about and from the environment.
This principle lay emphasis on practical activities and first hand experience in teaching and learning of EE.
9. It should focus on the local community of the learner while at the same time topics learned should be related to a wider community such as at regional, national and international levels.
10. Learners should be given the opportunity to play a role in planning their learning experiences and making decisions and accepting their consequences. This principle seek to make learners part of the decision making process.

From our conception of environmental education discussed above, it may seem that the ultimate goal of environmental education is the promotion of the "quality of the environment". It is beyond this, as the ultimate goal of environmental education is *improvement of the quality of life of the man*. Specifically, the general goal of environmental education is to develop a citizenry that is aware of the total environment, concerned about it and its associated problems, and which has the knowledge, skills, attitude, motivations and commitment to work individually and collectively towards its solution of current problems and the prevention of the new ones.

Objectives of Environmental Education

In general, the objectives of Environmental Education, if met in any higher education setting, should result in the following educational output.

- Awareness - to facilitate students and social groups acquisition of awareness and sensitivity for the total environment and its allied problems
- Knowledge — to help students and social groups gain a variety of experiences with the total environment and to acquire a basic understanding of the total environment, its associated problems and humanity's critical responsible presence and role in it.
- Attitudes - to encourage students and social groups to acquire social values, strong feelings of concern for the environment and motivation for activity.
- Skills - to help social groups and individuals acquire the skills for identifying and solving environmental problems;
- Participation - to provide social groups and individuals with an opportunity to be actively involved at all levels in working towards solution of environmental problems,

The Need for Environmental Education in Tertiary Institutions in the 21st Century

Environmental Education is needed in tertiary institutions to: -

1. Produce a crop of manpower that will assist in policy formation and implementation on environmental conservation matters and sustainable development.
2. Develop professionals that will take curriculum initiatives and assist in the teaching and learning of environmental education in Nigerian educational system.
3. Provide expertise that will educate urban and rural dwellers on the subject of environmental conservation, management and sustainable development.
4. Fill the manpower requirement in environmental protection agencies, nature conservation organizations and National Parks.

5. Ensure the availability of resource persons that will develop material for the advancement of environmental conservation and protection.

Environmental Education is regarded not as a new discipline but as an environmental dimension, which should be incorporated into educational systems, programme and processes especially higher education. It is based on this that the following recommendations are made

Recommendations

1. International organizations such as UNESCO-UNEP, WWF, IUCN and voluntary agencies should be encouraged to support training of teachers and Environmental Education facilitators to ensure effective implementation of Environmental Education programmes in Nigeria.
2. All tiers of government including local communities should participate in the formulation and implementation of project-centered education programmes based on the peculiarities of their local environment.
3. NUC and NCCE should offer overseas training opportunities to Nigerians in sustainable environmental education.
4. Environmental Education is very broad, and any teacher in this field must have some reasonable knowledge of the entire relevant subject that make up environmental science. Therefore teacher training is paramount for the successful development of formal Environmental Education in Nigeria.
5. There is need for appropriate literature in Environmental Education for use in Nigeria. There exist enormous virgin areas of research in Environmental Education, which if explored, would guide the successful implementation of the programme. I salute the members of the STAN Environmental Education Project Team for their continued efforts in this direction.
6. Colleges of Education should start to run Environmental Education as a separate subject and not infusing it with integrated science.

Conclusion

Okeke (1999) writing for UNESCO stated that, the Nigerian Education, Research and Development Council (NERDC) has designed new curricula on appropriate education agencies and the proposal is to infuse the environmental issues including population control into already existing science subjects, especially Integrated Science which is compulsory. This is to avoid a multiplicity of subjects to be studied. In my own opinion, this integration practice has made Environmental Education to be silent in the minds of students limiting or discouraging the objective of 'participation'. Environmental Education should 'stand alone' as a separate subject in higher education in this 21st century.

The department of research and planning in NUC, NCCE, NERDC, should develop Environmental Education programmes for colleges of Education and Universities to be run in a holistic approach instead of infusion or integration. This is surest way of influencing Nigerian citizens especially those still in their formative years to change their attitude and behavior towards the environment in this 21st century.

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