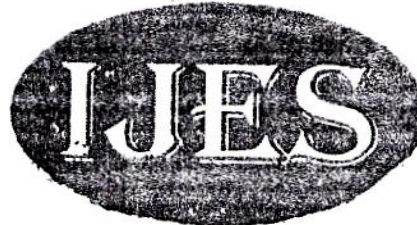
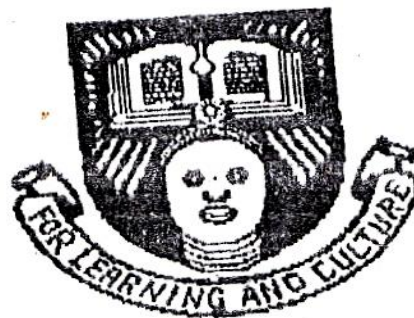


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# AGENDA 21-BASED CURRICULUM PARADIGM FOR ENVIRONMENTAL EDUCATION AND SUSTAINABLE DEVELOPMENT IN NIGERIA

BY

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## ABSTRACT

Agenda 21 basically calls for environmental sustainability. It requires the use of multi-dimensional approaches to provide the necessary orientation to sustainable living and ecofriendly socio-cultural and technological behaviours. The curriculum is a potent instrument for achieving Agenda 21 objectives. This paper extrapolates into the curriculum demands of the next century and proposes an Agenda 21-based curriculum paradigm for environmental education (EE) for Nigeria. It calls on various governmental and non-governmental organisations (NGOs) to assist Nigeria formulate her local Agenda 21 as a sustainable basis for culturally relevant environmental education curriculum development and implementation and national sustainability.

## INTRODUCTION

Agenda 21 is the popular official title given to the *Report of the United Nations Conference on Environment* held in Rio de Janeiro 3-14 June, 1992. It is officially tagged "Agenda 21" because the environmental problems and issues for global sustainability in the 21st century formed the agenda for that Rio conference on *Environment and Development*.

As a global blue-print for sustainability of the total environment for the 21st century and beyond, Agenda 21 is a document of forty chapters, 38 of which are action-oriented. The

other two chapters discuss the preambles. Each chapter addresses a set of related programme areas using the thematic approach to environmental issues and concerns. The first section is on social and economic dimensions. It focuses among other things on international co-operation, poverty, consumption patterns, demographic dynamics, health, human settlement and integration of environment and development. Section two is on conservation and management of resources for development. It covers fourteen chapters spanning from protection of the atmosphere

to solid waste management. Section three which covers ten chapters is on strengthening the role of major groups including, women, children and youth, indigenous peoples, NGOs, local authorities, workers. The last section focuses on means of implementation. It covers financial resources and mechanisms, transfer of technology, science, education and capacity building, among others, in eight chapters.

This presentation is therefore designed to:

- (a) examine the role of education in the sustainability equation;
- (b) assess environmental education curriculum within the context of Agenda 21;
- (c) propose an Agenda 21-based environmental education curriculum paradigm; and
- (d) establish curriculum demands of Agenda 21.

### **THE ROLE OF EDUCATION IN THE SUSTAINABILITY EQUATION**

The role of education in the sustainability equation of Agenda 21 cannot be underestimated. The Agenda sees it "as a process of which human beings and societies can reach their fullest potential". Furthermore, it is an instrument par excellence "for promoting sustainable development and improving the capacity of the people to address environment and development issues". It is also "indispensable to changing peoples' attitudes" and "critical for achieving

environmental and ethical awareness, values and attitudes, skills and behaviours consistent with sustainable development" (UN 1992: III, 70). All these imply that the strategic role of environmental education (EE) is to implement Agenda 21. The channel through which education can achieve these global expectations is the curriculum.

Yet one wonders whether the EE curriculum in Nigeria, in spite of its exalted image as at present conceived, does indeed possess that focus and therefore the capacity to achieve the objectives of Agenda 21. The expectations of Agenda 21 enshrined in Chapter 36 of that document focuses on education, public awareness and training. The summary of the nine main objectives show that it is designed to:

- meet the basic learning needs and ensure universal access to basic education while reducing adult illiteracy;
- create environmental and development awareness in all sectors of the society;
- link environmental and development education to social education at all levels and through adulthood, to all groups of people;
- integrate environment and development concepts, including demography, in educational programmes;
- promote public awareness as an essential part of a global education effort to

- strengthen attitude, values and actions which are compatible with sustainable development;
- establish and strengthen vocational training programmes that can meet the needs of environment and development;
- promote a flexible and adaptable workforce equipped to meet environment and development problems;
- strengthen national capabilities in scientific education and training to facilitate transfer and consumption of new socially acceptable ecofriendly and appropriate technologies; and
- ensure the integration of environmental and human ecological considerations into all managerial and functional levels.

That doubt may not be affirmatively resolved partly because the present approach is non-directional and therefore misleading (Harvey, 1995). Its teaching strategies are multi-disciplinary and diffused (Inyang-Abia and Umoren, 1995). Its theoretical bias is diverse and unstable (Noibi, 1994). Its definitions are still undergoing the evolutionary growth (Inyang-Abia

and Usang, 1992).

### **ENVIRONMENTAL EDUCATION CURRICULUM WITHIN THE CONTEXT OF AGENDA 21**

Agenda 21 has provided the needed green light for an acceptable sharper global focus, though not perfect. Available EE curriculum paradigms such as the insertion, thematic and multidisciplinary approaches have been found inadequate. Harvey's (1995) linear model is not only simplistic but also lacking in the processes. That is why a more realistic model is necessary for EE within the context of Agenda 21.

At the Stockholm conference of 1972, education in environmental matters was identified as an essential requirement for a sustainable future (UN, 1973). The World Conservation Strategy (IUCN, UNEP, WWF, 1980) echoed it; so also was the National Conservation Strategy (NCF, 1988). Given its global recognition for the last quarter of a century and its local existence for the last twelve years one still wonders whether EE has actually had a meaningful curriculum direction capable of facilitating the achievement of the stated objectives within the context of Agenda 21.

## **AGENDA 21-BASED CURRICULUM PARADIGM**

A seven-Step Agenda 21-based curriculum framework is hereby proposed for Nigeria based on local Agenda 21 which Nigeria must establish. The model adopts action-oriented steps in each facet as briefly discussed below and as shown in Figure 1.

### **a. Analyse Context**

This activity provides the baseline data and information for the effective design of curriculum. For example, the societal and individual needs and the relevant constraints and strength of the Nigerian society are identified and analysed. The global Agenda 21 is analysed in consonance with local authorities' initiatives. This implies localizing the global Agenda 21. Section 28.3 of UN (1992: III, 24) demands that

*Each local authority should enter into a dialogue with its citizens, local organisations and private enterprises and adopt "a local Agenda 21". Through consultation and consensus-building, local authorities would learn from citizens and... acquire the information needed for formulating the best strategies, ... Agenda 21 would be*

*assessed and modified.*

The priority areas based on felt needs identification and assessment would be selected for local application and design of curriculum.

The characteristics of the Nigerian learner, the teacher quality, quantity, variety and commitment level, need for further training, among others, can be identified. So also can available space, time, general infrastructure be analysed. This also implies identification and mobilization of specific target audience and personnel for further action.

### **b. Specify Goals and Objectives**

Contextual analysis as shown on Figure 1 logically leads to curriculum goals and objectives based on the identified areas of needs. These must be properly targeted and enriched. Objectives must be adequately operationalized. They must incorporate the expected environment behaviours based on the local Agenda 21 expectations which should now form the environmental education goals.

### **c. Construct Prototype EE Curriculum**

The selection and sequencing of relevant content, learning experiences, delivery systems, instructional materials and modes, strategies and evaluation instruments are done at this stage. They must all reflect the local Agenda 21. The general plans, content, structure, methods and

personnel requirements must focus on the local Agenda 21. The prototype EE curriculum must consider and integrate all required curriculum inputs to facilitate comprehensive feedback from the field.

**d. Integrate and Implement**

The initial ideas of the global Agenda 21 must match the newly designed curriculum objectives and structures. Matching the curriculum structures and contents with the local Agenda 21 objectives, field-testing it, giving informal interpretations and evaluation by a cross-section of the stake-holders, use of odd-numbered panel of judges and use of table of specifications are some ways of ensuring the validity of the curriculum as related to the desired level of integration and implementation. All the inputs must then be made to come into direct relationship and interaction with the identified target groups through the use of trained and committed personnel.

**e. Monitor and Assess**

This on-going phase of activities links every other phase of Agenda 21-focused curriculum paradigm of EE curriculum. It involves data collection on the basis of the curriculum inputs and processes. Such data could include those related to any of the earlier stages. How the delivery system is operating and coping with unanticipated outcomes, the responses of the target stake-

holders and the effectiveness of the contents with respect to the local Agenda 21, among others, must be consistently monitored and assessed.

The quality and interrelationship of all input, process and output variables are strictly monitored in relation to the local Agenda 21. Pretraining and retraining needs of relevant personnel to match the expectations of the local Agenda 21 must be identified, monitored and integrated into the curriculum system for effective EE.

**f. Recycle and Refine**

This revisional stage depends upon the feedback derived from the previous stages. It may require some structural adjustments, systemic re-designs, enrichment strategies and some input refinement. Feedback information and logistics may also need shrewd management based on observations from the field.

**h. Install the Curriculum**

Within the whole educational zone, state or country the new curriculum operates. It gains acceptability. Local variations and peculiarities must also be allowed.

From the seven interrelated though not mutually exclusive activities it is obvious that there is a re-emphasis on global thinking but local action. By so doing Nigeria can face the challenges of Agenda 21.

## **CURRICULUM DEMANDS OF AGENDA 21**

Inyang-Abia (1991) adopting a modified Delphi technique predicts the curriculum image up to year 2010 in terms of personnel and material inputs. He warns that the curriculum demands major innovations to cater for the impending needs if future shock within the entire educational system must be avoided. Skills development, sex education, more culturally related curriculum methods and materials, sharper continuous assessment instruments and strategies, sharper pre-specified objectives, greater focus on early childhood education, increasing demand for distance and continuing education and greater ecofriendly productivity in agriculture, science and technology were predicted as necessary curriculum focus.

Still on the challenges of the next millenium, Alo (1997) foresees exponential growth rate on the planet and the resultant ecological lod, ephermeralisation of technology, astronomical growth of human knowledge, increasing world population, galloping urbanization, greater industrialization, uncontrollable fertilizer consumption, clean-cut

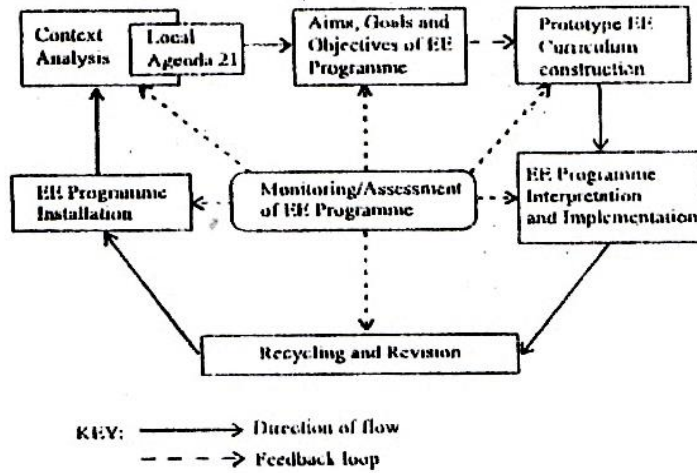
deforestation, devastating desertification and multiple species extinction.

All these have implications for the Agenda 21 focused curriculum proposed in this presentation. These problems must be adequately adressed by environmental education if sustainable development must be achieved.

## **SUMMARY AND CONCLUSION**

EE as currently conceived of is non-directional, diffused and fraught with conceptual confusion. But Agenda 21 provides a global focus with adequate latitude for modifications. Local Agenda 21 can provide the required direction for culturally relevant environmental education for Nigeria based on the proposed curriculum model. FEPA, UNDP, UNESCO, among other local and international NGOs including NEST, NCF and WWF, are called upon to assist Nigeria to come up with her local Agenda 21 and environmental education curriculum with a sharper focus. Local Agenda 21-based environmental education curriculum model is what can take Nigeria out of the present predicament.

Figure 4: Agenda 21- Based Environment Education (EE) Curriculum



Adapted from Inyang Abia & Umoroh (1995).



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