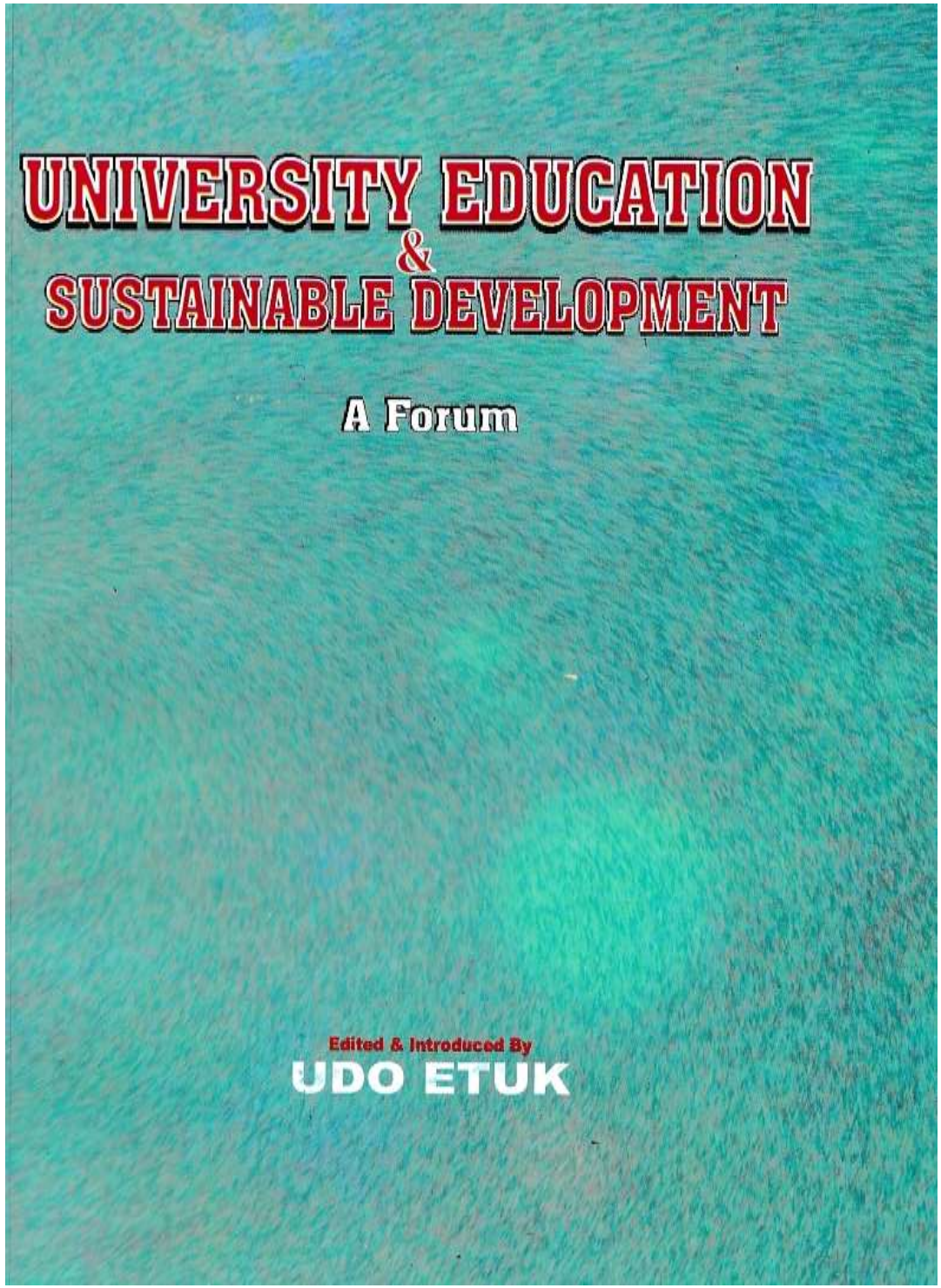

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Chapter Six

THE CURRICULUM OF HIGHER EDUCATION AND SUSTAINABLE DEVELOPMENT IN DEVELOPING NATIONS

By

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INTRODUCTION

Higher or tertiary education is the highest conscious effort made by many countries to educate its citizenry. Having passed through the primary and secondary levels of education, the citizen is expected to have learnt sufficient skills to live comfortably in the given society. Higher (tertiary) education is the last lap of education where whatever foundation was laid is perfected. The graduate of this institution is therefore expected to be an embodiment of all the ideals of the country. This is particularly so because the country has had all the opportunities at its disposal to groom the individual through its planned programmes with which schools are built. The graduate is expected to be a valid tool for the country's development. In this paper, we shall seek to understand what constitutes higher education in most developing countries, the concept of curriculum and curricular provisions to the development of a higher education graduate. Finally, we shall attempt to examine the expected contributions of the higher education graduate to sustainable development, after of course shading some light on the concept of sustainable development. In our discussion, we shall use Nigeria as our example and in some

cases attempt examples from other developing countries.

Higher or Tertiary Education

This is the education given to citizens of a particular country after secondary education. It is normally given in universities, colleges of education, colleges of technologies, poly and monotechnics, and all other institutions of equal status as the ones enumerated above. Higher education includes correspondence courses which would lead to the qualifications higher than secondary school graduates.

The Concept of Curriculum

In any layman's speech, curriculum would depict the ensemble of subjects offered by the school or the subjects taught at a particular school. This conception is confirmed by Hornby (2000) as he defines curriculum as "the subjects included in the course of study of any school". In line with this, Good (1973) in Olaitan and Ali (1997) defines curriculum as a systematic group of courses or sequence of subjects and planned experiences required for graduation or certification of a learner under the guidance of a teacher in a school. Although many would say that there are no generally agreed definitions to curriculum, many experts would however agree that curriculum encompasses all that the school does in order to achieve the set goals of the institution. In sum, curriculum depicts all the planned experiences provided by the school to assist the student in attaining the designated learning outcome. These experiences are arranged in subjects, courses and programmes as the case may be.

Curriculum development would therefore mean planning and decision on what should belong to the curriculum and what should be expunged. This activity is a continuous one especially when we acknowledge that the society and the needs of the learners are very dynamic. The curriculum of any given institution addresses principally the aims, goals and objectives for which the institution was established. These aims, goals and objectives are essentially reflections of societal needs and governmental policies geared towards addressing these needs.

What is to be understood from the foregoing discussion, and

particularly as far as our topic is concerned, is that the curriculum of higher education in any developing country is expected to be essentially a reflection of the governmental policies put in place to address the emerging needs of that society. In this way, higher education is expected to produce graduates who in themselves would be solutions to the challenging problems of the society in question.

The Concept of Sustainable Development

Sustainable development is viewed as a regularization of the means of living which provides for adequate improvement on the previous ways of living, in response to contemporary exigencies of life with the full awareness of the need to act in ways and manners which would ensure continued existence and adequate comfort to the succeeding generation. The whole idea underlying sustainability depicts making wise use of what is available for maximum benefit to the present generation and ensuring that there is sufficient for generations to come. Sustainability therefore would implicitly require putting in place a system of enduring innovations to initiate a beneficiary process as well as maintenance and regeneration of available resources.

The ideas expressed above agree very much with Akpa (1997) when he defines sustainable development as a process of change in which the exploitation of resources, direction of investment, orientation of technological development and institutional change harmoniously meet the needs of the present generation without jeopardizing those of the future generation. With specific reference to environmental exploitation, Olarinoye (1997, p.168) notes:

> Sustainable development of any nation can only be achieved through acquisition of relevant knowledge and skills by citizens to enable them participate as effective citizens using and exploiting environmental resources in a sustainable manner for themselves and generations to come.

What this means is that for the curriculum of any country to provide for development and sustainability, there must be a careful examination of the needs of the country. What therefore are the needs of developing nations?

Needs Assessment of Developing Nations

Developing nations are essentially those countries outside the conglomerate of the G8 nations, countries which cannot compare with Britain, France, Germany and the United States of America in terms of development, technological advancement and sustainable systems. All other countries, to my mind are at various stages of development. It can however be agreed that no two nations can ever be at the same level of development such that their needs and aspirations are exactly the same. However, there could be some similarities drawn along their challenges, aspirations and needs lines such that it becomes possible to group these countries into "advanced" or "poor," "industrialized" or "developing" as the case may be.

Developing countries share most of the following threatening challenges. The most threatening of all the others is food insufficiency arising from inability to adapt technology sufficiently to suit climatic conditions, soil type and other maximum productivity paradigms. Other areas of threats are mass illiteracy, pollution, population explosion, political instability, ecosystem depletion and environmental degradation, to mention but a few. As in the case of Nigeria, a situation where an average of more than 60% of the family's income is spent on food leaves the other competing sectors like health, education and shelter unattended to. The attendant hazard sometimes could have been alleviated if the government were able to sufficiently cater for the health and education needs of the citizens. But with no free education, no free medical services, the onus still lies on the citizen to provide the basics for himself and his family members. The picture painted above is not too different in other developing countries especially in Sub-Sahara Africa.

Arising from the need to accumulate wealth for self and immediate family members and perhaps insatiable quest for power,

political leaders misappropriate public funds, design policies which favour them in the first instance before addressing the needs of the masses. With this at the background, there is bound to be internal rumbling. This coupled with international and regional political maneuver, sets the stage for political instability of the country.

The rate of population growth in developing countries far outweighs the provision for the country's development such that the number of children without basic education in the world numbers as high as 12 billion (65 million girls and 56 million boys) with the bulk of these living in developing countries. In fact, primary school enrolment and attendance for developing nations stand at 80%, Sub-Sahara Africa 59% as compared to industrialized countries of 97% (UNICEF 2004). These figures are as far as primary school enrolment and attendance are concerned. The percentages get considerably lower when primary school completion and attendance at secondary schools data are considered. With this in focus, the percentage of citizens who may not get basic education can therefore be imagined. For most developing countries, the situation is further complicated because accurate census figures are not available.

Awareness and information dissemination come through several sources. One of the most effective avenues is through the sense of sight. When a sizable percentage of the population is not literate, development is slowed down. Today, the industrialized countries ship down recycled, fairly used goods like cars, computers, generating machines and the like to the developing countries with the impression that the former are helping the development process of the latter. With this practice, developing countries become a dump for 'wastes', including toxic wastes. Used cars and machines emit far more health threatening pollutants than newer ones. The situation in developing countries becomes worse especially as they hardly can manage wastes even the ones generated by them. Akpa (1997,p. 409) comments that:

> Throughout the developing world, water is polluted by sewage or industrial wastes. In India, 70% of all surface water is polluted...There is a growing pollution of water ways and sediments levels in rivers having been increasing at 5% per annum in countries

like Nigeria, Tanzania and Zambia.

He concludes by observing that water is life to all living things and that pollution of this magnitude has obvious consequences for human health.

For environmental degradation and ecosystem depletion, we can point immediate fingers at human action and inaction which account for deforestation, green house gasses with its contribution to global warming, increased acidity of soils as a result of faulty waste disposal methods, mining processes, oil drilling activities, desertification, devastating erosions, floods, tsunamis, earthquakes, and droughts. All these dole out untold measure of hardship on human continued existence. They destroy lives and property, impoverish and maim individuals and communities.

Developing countries cannot be lukewarm in attitude with the above discussed challenges staring them in the face. A developing nation needs sustainability much more than a developed nation as there is the intrinsic desire to rise above their present syndrome of underdevelopment. From the above, two comprehensive needs are immediately discernible for each developing country, the satisfaction of which would lead to sustainable development. The degree to which each may have priority over the other however depends on individual country's situation, their preference and cultural peculiarities,

- First, each developing nation has need for effective citizenship and environmental education.

- Second, there is need for skill and adapted technology to re-engineer the country's initiative towards satisfactory provision and production of needed facilities for the present and the future.

The only sure way of satisfying these needs is through a careful and a systematic planning of the country's curriculum.

Curricular Imperatives for Sustainable Development in Developing Countries

Aware of the challenges facing each developing nation, there is the need for the nation in question to educate her citizenry adequately to be sensitive to the predicaments of their nation. Education, as seen by Obinaju (1995a), is an initiation for the development of the mind and as a source of social control. She also observes that the purpose of a school (education) is to help the learner to develop into an active citizen, knowledgeable in the cultural values and social norms of his society (Obinaju, 1995b). Calling for Social Studies Education which she estimated as the central part of Citizenship Education, she recommends the methods which would desensitize citizens from intolerance, injustice, hatred, laziness, lack of cooperation, disregard for individual rights and property, disobedience to law and the like as a prerequisite for national integration. Citizenship education would among other things educate citizens to feel, act and respond primarily as a citizen of the country in question, taking into consideration its needs, aspiration and goals. The need for the survival of the country would override personal interest such that the antecedents to political instability would be reduced. Education would therefore "develop and inculcate proper values for the survival of the individual and society" (NPE, 2004:36).

The main purpose of Environmental Education is the preservation and the conservation of natural resources, ways of harnessing to ensure sustainability, and ways of initiating processes which could originate new areas of environmental exploitation. With these, the graduate would be well armed to make wise use of existing natural resources to ensure maintenance and replenishing of the resources. Education of the citizens therefore would not end at "developing in the child the ability to adapt to his changing environment" (NPE, 1998,p.13) but has to move further to equip him with full knowledge of available resources and proper/sustainable modes of harnessing these resources. It is only in these ways that education can help the graduate to acquire both physical and intellectual skills which would enable him to be self-reliant and a useful member of the society.

Citizenship and Environmental Education, when incorporated in the curriculum should be conceived from an integrated approach which transcends the present offerings of Social Studies, Biology and such other subjects.

Citizenship Education should embrace

- The definition of citizenship education
- History of the nation
- Comparative study of different systems of government
- The chosen system for the country in question and the underlying
- reasons
- Ideologies of government
- Constituted authority
- The concept of a citizen/citizenship
- The rights and obligations of citizens and government
- The arms of government and their functions
- The civil society, service and privileges
- Federal agencies; functions and roles
- The constitutional provisions of the country
- Majority and minority rights and privileges
- Symbols of national identity
- Ethnic and traditional values, discipline and mores
- The roles of men, women and children
- Public health, sanitation, education and service
- Sources of national revenue and expenditure
- Revenue allocation and attainment
- Ecology and topography of the country
- Domestic and cash crops of the nation
- The vision, prospects and problems of the nation

This is in no way exhaustive. Other topics which would enhance the citizen's knowledge of his nation and make him ready to be a true citizen of the nation could be included depending of course on the needs and requirements of the nation.

Environmental education should cut across natural, agricultural, social, medical and behavioural sciences. Contents as suggested by Olarinoye (1997.,p. 172) include:

- The child as a living being
- The child and his home
- Controlling the environment-conservation
- Ecology concept: environment, biosphere, lithosphere, hydrosphere, atmosphere, habitats, population, biotic community, ecosystem,
- Ecological factors; habitats e.g. aquatic and terrestrial, ecological succession
- Plants, animals and their habitats
- Food shortage and over crowding
- Internal and external environment
- Chemical analysis (quantitative and qualitative)
- Measurements, collection, sorting, classification, estimating
- Health hazards: environment pollution, sewage system, environmental sanitation, pesticides, insecticides, the need for games and other sporting activities
- The soil, types, utilization and preservation. The plants and their preservation
- Problems in human interactions and solutions--harnessing and replenishing natural resources, purpose of living, biological and cultural evolution of man in relation to the environment
- The seasons and the effects on the environment
- Environmental management techniques
- Moral and ethical considerations in environmental education.

From the above, there are overlapping areas between Citizenship Education and Environmental Education. These make for enrichment of the content and a multi-dimensional approach to the particular topic. Citizenship Education and Environmental Education would make for the formation of the individual while he

would need a skill with which he would be gainfully employed.

In the area of skill acquisition, the graduate of higher education in a developing country needs a practical skill which would help in the manufacturing of indigenous technology in order to produce tools. Even when tools are produced elsewhere, there is the need for skilled adaptation of these tools to suit local needs. Developing countries therefore need such courses as mechanical, civil, agricultural, food, electrical, mining engineering and technology in their curriculum. Only these, in combination with citizen formation courses, would bring about sustainable development in the country.

Conclusion

In this paper, we have seen that, at the higher education level, a developing nation necessarily needs to train its citizens to be a solution to the country's problems. This she would do by fashioning her curriculum to suit her needs. The needs of a typical developing nation have been x-rayed and the required curricular content examined. In all, it has been posited that for each developing country, an appropriate curriculum in Citizenship and Environmental Education such as the one highlighted in this paper, combined with an appropriate skill in the area of engineering and technology, would prepare a higher education graduate adequately and place him poised to drive his country to sustainable development.

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