Towards Improving Research Capabilities of Tertiary Educational Institutions in the Third World Countries for Sustainable Development: A Review Summary of Research.

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Abstract
The study which adopted the historical research design analysed secondary sources like academic journals, books, the print and the electronic media. Twenty-one (21) out of 105 articles contained in 13 sources were analyzed for information. Two research questions which guided the study centred on factors responsible for the low level of academic research in the Third World academia and on measures for curbing those factors. Information collected were analyzed using frequency counts and percentages. Three out of seven factors mentioned which stood out because they were largely mentioned were poor research methods, failure to collaborate and poor dissemination of research results. Suggestions toward improvement centred on review of tertiary education curricula to embrace modern ICT skills by students and staff, collaboration and initiatives from individual tertiary institutions. The recommendations centred on the creation of research and development departments in each tertiary institution. It was concluded that if the suggestions and recommendations are considered, academic researches could usher in sustainable development in the Third World countries.

Résumé
L'étude qui a adopté la conception de la recherche historique a analysé les sources secondaires comme des revues spécialisées, de livres, l'impression et les médias électroniques. Vingt et un (21) hors des 105 articles contenus dans 13 sources ont été analysés pour plus d'informations. Deux questions de recherche qui a guidé l'étude centrée sur les facteurs responsables pour le faible niveau de la recherche universitaire dans les universités du tiers-monde et sur les mesures pour enrayer ces facteurs. Les informations recueillies ont été analysées à l'aide des comtes de fréquence et de pourcentages. Trois des sept facteurs mentionnés qui se tenaient parce qu'ils étaient en grande partie mentionnés étaient des méthodes de recherche pauvres, défaillance de collaborer et pauvre de diffusion
des résultats de recherche. Suggestions vers l’amélioration centré sur l’examen des programmes d’enseignement supérieur à adopter des compétences TIC modernes par des étudiants et du personnel, la collaboration et les initiatives de différents établissements d’enseignement supérieur. Les recommandations centrées sur la création des départements de recherche et de développement dans chaque institution tertiaire. Il a été conclu à marquer le que si les suggestions et recommandations sont considérées, recherches académiques pourraient début dans le développement durable dans les pays du tiers-monde.

Introduction

Coined in 1987 and formally launched in 1994 by the World Commission on Environment and Development (WCED), the term, "sustainable development" means "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 43). According to the United Nations Educational Scientific and Cultural Organization (UNESCO, 2000), the concept of sustainable development is difficult to define because it is continually evolving. As societies change, human awareness of the earth, humanity and human-environment interactions correspondingly change. This engenders regional shifts in focus, and the conditions of local ecosystems and cultures are reflected in the different definitions of the term, sustainable development. Most people in the world have intuitive senses of what need to be changed to have a sustainable future, but they may not provide a precise definition of the concept of sustainable development. Sustainable development as seen in this paper, means growth and change that is viable, long lasting and yielding benefits to people now and hereafter. Sustainability can apply to anything, from decisions about education to issues related to the world economy and the global environment.

The major issues in international discussions on Education for Sustainable Development (ESD) centre around interrelated phenomena, namely: high population growth rate in some countries of the world, the world pattern of resource consumption and environmental depletion (UNESCO, 2000). The trio has been identified as the major phenomena that jeopardize sustainable development and the good future of some nations of the world. Arising from these, the focus of research and sustainable development in Africa and perhaps in all the Third World countries, should centre on agriculture, health and climate change, (Case Studies, n.d.). This is probably because the Third World countries have the fastest population growth rates and they consume more than they produce (UNESCO, 2000). A good proportion of the people in the Third World countries live under congested living spaces, have very poor social and health conditions and earn less than one dollar a
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day. They tend towards depleting the natural environment due to excessive cultivation using poor agricultural implements and practices (Case Studies, n.d.). In effect, agricultural and social practices in the Third World countries are likely to lead to unsustainability in development. These include such practices as deforestation, oil spills, forest fires, environmental pollutions which augur in desertification, floods, storms, global warming, famine and health problems, some of which are wrongly attributed to nature (UNESCO, 2000).

Chapter 36 of Agenda 21, a forty-chapter document, launched in 1994 by WCED is devoted to streamlining how to re-orient education towards sustainable development. It acknowledges the evolving nature of sustainable issues and implores that the content, scope and methods employed by educational institutions should change in time and space. Educators should be flexible enough to create an 'Education for Sustainable Development (EDS) curriculum', with some inputs from the communities in terms of knowledge issues, perspectives, skills and values identified and pursued and tailored to fit individual peculiar situations (UNESCO, 2000).

The term 'tertiary education', is a collective term often used to describe the educational level above the secondary school level. It refers to education in universities, colleges of education, monotechnics, polytechnics, institutes of technology, professional and specialized institutions, which are above the secondary school level. Until recently, tertiary educational institutions were generally referred to as, 'higher education' (International Association of Universities (IAU, 2000). For this paper however, the term 'tertiary education' shall be confined to the universities.

Context

In the international stratification of nations, counties in Africa, Asia and Latin America are often referred to as the 'Third World', the 'underdeveloped' and recently, the 'developing countries'. The Third World countries according to Okeke (1989) are characterized as:

being incapable of preserving their goals; possessing high potential economic surpluses but low ratios of industrial outputs to total outputs; having potential prospects for using more capital than labour; scarcity of capital for general investments; a tendency to be politically dependent upon other power centres; asynchronous forms of development; production patterns being determined by the developed nations; rise and maturation depicting instability and schismatic propensities; ethnic and religious differences are exceedingly important; and the ideologies are enshrined in the concept of emergence and how to gain worldly prominence (p. 24).

This paper is therefore aimed at providing strategies for making better the quality and quantity of research outputs, which emanate from universities in the Third World countries.
such that their home countries could measure up with the developed nations of the world economically, politically, and socially. In particular, they stop being perpetual borrowers from international financial institutions, develop better welfare packages for their citizens, and industrialize to the extent of participating in the international electronic market.

In the developed countries of the world, inventions, discoveries, innovations, theories and practices leading to societal development, often times emanate from tertiary educational institutions through academic research. The theory of Industrial Economies maintains that in order to lead sustainable growth, academic industrial collaboration must exist in significant proportions (Khasawneh, Owais & Malkawi, n.d.). This explains why industries flourish around colleges in developed countries and there is a close proximity between academic efforts and industrial outcomes. For example, the Research Triangle Park (RTP) in North Carolina and Silicone Valley in California, which are sustained through academic research (Khasawneh et al. (n.d.). Most economies recognize that substantial increases in material standards of living depend very much on research and development, pioneered through the tertiary education system, which is richly endowed with human resources (Scherer, 2006).

The situation in the Third World countries is pitifully different except in some Asiatic countries like India and China (Scherer, 2006). With this background, literature was searched for reasons for the seeming failure of academic research from the Third World countries to impact on the economies of these countries and beyond. The problem for investigation was the seemingly low research capacities of tertiary educational institutions in the Third World countries and the failure of academic research to usher in sustainable development. Two research questions which guided the study were:

(1) What are the causes of the seemingly low research capacities of tertiary educational institutions in the Third World countries?

(2) How could research capacities of tertiary educational institutions in the Third World countries be made to engender the development of these countries for sustainability?

The historical research design was used and records of secondary sources were made. Among the records analysed were academic journals, books, conference papers, the print media and the electronic media, particularly the internet. Twenty-six (26) out of 105 articles contained in 13 sources were found to be sufficiently relevant to the issues of interest. The information collected were supplemented with information from peers, in which six out of 10 members of academic staff in the Department of Curriculum Studies, University of Uyo, Nigeria helped in assessing the information collected. Thus, information were collected on factors, which were thought to be responsible for the seemingly low research capacities of tertiary educational institutions in the Third World countries and measures for
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directing academic researches towards the sustainable development of the Third World countries.

**Findings**

Factors mentioned as being responsible for low research capacities of tertiary educational institutions in the Third World countries collected from literature and subjected to peer assessment, were arranged in descending order of magnitude as found in Table 1.

**Table 1: Suggested Factors Responsible for Low Research Capacities of Tertiary Educational Institutions in the Third World Countries and Sources**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Factor</th>
<th>Frequency Count</th>
<th>Percentage (%)</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>No collaboration between fellow tertiary institutions, with research institutes and with overseas institutions</td>
<td>6</td>
<td>23.1</td>
<td>Tamukong, 2000; Nnoli, 2001; Etim, 2007; Khasawneh et al, n.d. Nyamnjoh, n.d.</td>
</tr>
<tr>
<td>3</td>
<td>Poor dissemination of research results</td>
<td>4</td>
<td>15.4</td>
<td>Nenty, 2000; Nnoli, 2001; Etim, 2007; Khasawneh et al, n.d.</td>
</tr>
<tr>
<td>6</td>
<td>Lack of human and material resources</td>
<td>2</td>
<td>7.7</td>
<td>Nenty, 2000; Sulaiman, 2001.</td>
</tr>
<tr>
<td>8</td>
<td>Total counts</td>
<td>26</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
The factors identified and presented in Table I are as follows: poor research methods; lack of collaboration between fellow tertiary educational institutions; no collaboration with research institutes and no collaboration with institutions overseas, which have strong industry grade research bases; poor dissemination of research results and lack of harmonized database. Other factors mentioned included low quality of education; lack of human and material resources including poor and inadequate funding arrangements, and focusing research efforts away from the life and economic activities of the people. These factors are shown in Table 1 where the frequencies of mention and percentage counts of the frequencies are also shown.

Table 2a: Suggested Collaborative Measures for Gearing Academic Researches in the Third World Countries Towards Sustainable Development and Sources

<table>
<thead>
<tr>
<th>S/N</th>
<th>Suggestions</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exchange of trained/skilled work force</td>
<td>Chasawneh et al, n.d.</td>
</tr>
<tr>
<td>2</td>
<td>Collaboration with world-class academic institutions in the industrial nations</td>
<td>Chasawneh et al, n.d.</td>
</tr>
<tr>
<td>3</td>
<td>Forming industry-academic collaboration through the development of in-house research development (R and D) initiatives.</td>
<td>Scherer, 2007</td>
</tr>
<tr>
<td>4</td>
<td>Funding of industry-grade research in academic institutions.</td>
<td>Chasawneh et al, n.d.</td>
</tr>
<tr>
<td>5</td>
<td>Building a network of technology institutes in the Third World countries so that products from the universities could be educated on how to implement advanced energy-saving technologies in their home countries; staffing these institutes in exchange with scientists and engineers from the industrial nations.</td>
<td>Scherer, 2006</td>
</tr>
</tbody>
</table>

Tertiary educational institutions in the Third World countries are expected to initiate individual and joint actions as shown in Table 2b.
As shown in Tables 2a and 2b, measures suggested fall into two main groups, namely, collaboration and taking initiatives by individual tertiary institutions.

**Discussion**

As seen in Table 1, the factors that receive the largest mention as being the impediments to academic research in the Third World countries, in the descending order of magnitude are: poor research methods (26.9%), lack of collaboration among researchers (23.1%) and poor dissemination of research results (15.4%). Lack of harmonized database took the fourth position by gaining 11.5 % of the ratings. Others were low quality of education, lack of human and material resources and research efforts not being in line with community needs, which carried the same rating of 7.7%. Other factors mentioned, but with
very low frequencies included lack of investment policy on education, alienation of educational content and research efforts from the economic activities of the people and from industries and lack of core industries in the Third World countries to establish links with tertiary educational institutions.

A close examination of the factors which take the first three positions indicate that the impediments are in the area of capacity building for research, productivity of research efforts and utility of research results. The findings of this research agree with the opinions expressed by Chasawneh et al (n.d.) that solutions for gearing academic researches in the Third World countries towards sustainable development should be in the areas of capacity building, productivity and utility of research results.

The major problem emanating from the use of poor research methods is that research findings are not shaped in ways which are readily apparent to policy makers (Nyamnjoh, n.d.). The use of poor research methods may be consequent on the quality of education, which is often times bookish in the Third World Countries (Tamukong, 2000 & Nnoli, 2001). Certain knowledge and skills which are better learnt practically are most often learnt in theories. The educational system is so starved of funds that schools lack the necessary equipment and learning facilities. At the secondary school level where students are supposed to acquire the rudiments of analytic and scientific skills, the educational authorities release funds for practicals for examination purposes only. At the tertiary level of education, where research skills should be sharpened, the story is not much different, except that students may be in a better position to buy their own materials for research. Governments in most Third World countries have turned deaf ears to the mandate by the United Nations Educational, Cultural and Scientific Organization (UNESCO) (2000) that 26% of the annual budgets of national governments should be earmarked for education.

In Nigeria, where this research was based, annual budgetary allocations for education have consistently been below 10% of the national budget (Etuk, 2006). Educational funding has been a major bone of contention between the federal government of Nigeria and the Academic Staff Union of Universities (ASUU). This has led to the incessant strikes occasioned in the university system in Nigeria. Inadequate funding and poor funding arrangements were substantiated by Nenty (2000) and by Sulaiman (2001). The use of poor research method may also be consequent on the mentality of the academic researchers in the Third World countries, who do not initiate their own research efforts based on the problems in their communities. Rather than initiate their researches based on their environmental problems, they repeat what had been established by researchers in developed countries. Hence, fruit trees, crops and domestic animals are attacked by all forms of diseases with no succor from indigenous research efforts. Belief in the supernatural
as the cause of sicknesses and misfortunes is still rife even among the educated members of the public. Poor research methods may also not be unconnected with the ‘publish and perish’ syndrome in the academia. Many academics rush to the press without taking an in-depth look at the procedures used and without minding how useful their products would be to the society.

Failure to collaborate is part and parcel of poor research methods. People in the Third World countries are naturally more organic and interdependent. One would have thought that this kind of relationship would be carried into academic research. Failure to collaborate may arise from ignorance of the fact that collaborative researches are far more rewarding than not. It is our belief that non-collaboration may be a thing of the past in the not-very-distant future in the academic researches emanating from the Third World countries.

Failure to involve community members is an off-shoot of poor research methods. As earlier mentioned, research efforts should be directed at solving societal problems, starting from the immediate community. The problem of people in the immediate community is known through interaction with them. Hitherto, there was little or not interaction between the academic community and the public which it was meant to serve. The set up was such that every tertiary educational institution had a residential quarters for its staff. Life then in universities was popularly referred to as ‘living in the ivory towers’. The situation is now different, at least in Nigeria where this research is based. Government no longer builds academic staff quarters. Rather, staff in tertiary educational institutions are paid rent allowances, with which they rent their own accommodation or build their own houses. The present residential policy has diffused the erstwhile ivory tower and members of the academic community in Nigeria now mingle freely with the general public. This helps them to see the societal problem first hand. This should certainly augur well for academic researches in the Third World countries.

**Recommendations**

Educational stakeholders in the Third World countries should work towards removing the barriers posed by poor research method and by failure to collaborate. They should also improve upon dissemination of research results. In particular:

1. Individual universities in the Third World countries should review their curricula so as to improve upon the quality of graduates produced. The curricula in universities in the Third World countries should embrace modern information and communications technological (ICT) knowledge and skills such as the use of the computer, and how to source for information from the internet. Students’ ICT knowledge and skills
should be sharpened through formal training and through course assignments which demand the use of such knowledge and skills.

2. University lecturers should equally be exposed to ICT knowledge and skills through formal training, through workshops and through national and international conferences.

3. Both university staff and students should be exposed to e-learning media, which is an advancement in the technology of learning that facilitates exchange of ideas and researches among academics, through workshops and formal training.

4. Each university should have a research and development (R and D) department charged with the responsibility of training their staff in the use of good research methods and in writing good research proposals.

5. The R and D departments should liaise with international and national bodies to attract research grants to staff in their institutions. They should establish contact with fellow research institutes and industries both within and abroad for the exchange of information and human resources for training in research.

6. The academic staff in tertiary educational institutions should keep abreast of modern information and communications technology facilities and utilize them for research for sustainable development.

Conclusion

The factors which are said to be responsible for low level research outcomes from tertiary educational institutions in the Third World countries have been articulated. Suggestions for improvement have also been made. It is our humble belief that if the given suggestions are vigorously pursued by the educational stakeholders in the Third World countries, academic researches emanating from the Third World countries would improve to the extent of ushering in sustainable development. It is necessary to add that the Third World countries need not be rushed over the issues of research and development. The immediate concern should be on the political and economic stability of these countries. When the people’s lives and their environments are stable, sustainable development would be ushered in.
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