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THE ROLE OF RESEARCH AND HIGHER EDUCATION IN SUSTAINABLE DEVELOPMENT IN NIGERIA

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The paper basically examined the role of research and higher education in sustainable development in Nigeria. Stratified sampling was used to select a federal university and a federal research institute, the productive sector and consumers respectively in Oyo State, Nigeria, from which fifty and twenty-five subjects were used for the study. An instrument designed and validated by the researchers was used to collect the data which were analysed using both descriptive and inferential statistics. Findings are that education, particularly higher education, has tremendously impacted the Nigerian national development while research findings are hardly properly disseminated and applied by the productive sector. There is heavy dependence on importation, simply because the government has not created the appropriate enabling environment. It was also discovered that if the education industry in Nigeria were properly funded, greater level of development would have taken place than presently obtained. It was recommended that funds should be made available in the right quantum both to the higher education sector and the research institutes to enable them realize their mandate. The industrial sector of the Nigerian economy should patronize our higher educational institutions and research institutes for local content and product development and also work together with these bodies to set research agenda for the nation. Finally, it was recommended that government should set a research outcome/output dissemination agency to coordinate dissemination of research findings to the appropriate 'publics'.

INTRODUCTION

It is a general conception that man is the object of development and development cannot take place except man takes the initiative as well as plans, organizes, and implements development (Onuka, 2004). Thus, it can be said that development is by man and for man. Yet no man can cause development to take place until he is adequately educated to do so. Onuka (2004) believes that manpower development is the process of the continuing education of the manager to keep him abreast of every new management development (education or training). It is a cycle that begins with planning and ends up with feedback with organisation, implementation and evaluation in between.

Onimode (2000) captures the import of national development, when he states *inter alia*: 'The phenomenal rate of transformation (development) of the countries of the Pacific Region re-confirms the cliché that knowledge is power; education has been the most dominant factor in the transformation of these countries'. Therefore, it is invariably impossible for any meaningful national development without proper education of the citizenry. For Odumosu (1999), human resource development is vital to national development; while Onimode (2000) observes that knowledge is power, and thus believes in the paradigm shift to human resource development as the foundational basis for all forms of development. Thus African countries must take advantage of their human capital by developing the education sector to engender

the development of the continent. Basically, human development planning and execution starts with knowing how many and what sort of personnel and in what category and quantum you need them for the realization of the corporate goal (Akorede and Onuka, 2008). The implication of these observations hinges on the fact that human capital development is essential to national development and it is only an appropriate education and level of education that can bring about the required national development.

As Bamiro, in Akorede and Onuka (2008) observes, professional staff are an essential ingredient of the emancipation of a people in terms of development. He states further that many African institutions of higher learning are in a state of crisis; implying that they are currently ill-equipped. Emunemu and Onuka (2008) contend that education is the major tool for development, thus stakeholders in education industry must pay the desired attention to the sector and ensure that appropriate level of investment is committed thereto. Onuka and Emunemu (2008) found out that there was very high correlation between university education and leadership performance in Nigeria. This finding portends that education plays vital role in national development and should, therefore, not be toiled with. However, it has been found by various scholars that research also engenders educational advancement/development (Odinko, 2001; Onuka, 2005; Umoinyang and Okpala, 2001).

Onuka (2007a) posits that research is a major tool for development of every segment of any society; hence the need for constant researching for new discovery that facilitates development of a nation or any part of it thereof. According to Onuka (2004), development of information and communication technology that has brought the world together as a global village is a product of research efforts. Sharp and Howard (1996) posit that not many people appreciate the real import of research because many see 'research' as some activities that are much removed from day to day life which could be undertaken by very outstandingly gifted persons with a high level of commitment. Yet research can indeed prove to be a stimulating and satisfying experience for anyone whose mind is channeled towards enquiry. It can be safely

concluded, therefore, that research is for those who are determined to contribute to the existing body of knowledge.

For Cohen, Manion and Morrison (2000), research is a scientific method for searching for or enquiring about truth or making a discovery. However, Kerlinger and Lee (2000) view it as '*a systematic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among natural phenomena*'. Kerlinger and Lee's views about research implies that scientific research is planned to assist an investigator possess a critical confidence in the product of his research effort, and also to enable scientist put his assumption or beliefs to test or proof. Gay and Airasian (2000) observe that research is '*the systematic application of a family of methods that are employed to provide trustworthy information about problems*.' Research can thus be seen as the systematic inquiry to discovering solution to an unsolved developmental problem with a view to mitigating the problem, and thereby making substantial contributions to, and by extension, building up the existing body of knowledge. Onuka (2007a) found that no serious attention is paid to research in Nigeria, particularly evaluation and other forms of applied research, while Onuka (2007b) also found that only an infinitesimal amount of annual budget is often devoted to developing the education sector in Nigeria. Thus, it can be inferred from these findings that both education and research which are twin pivot on which national development is hinged, are not well funded. Akorede and Onuka (2008) found that education contributes to development as much as research does as the two are twin tools of development. Onuka and Emunemu (2008) equally assert that university education plays a major role of producing the necessary manpower level required for sustainable national development. The need thus arises to find out the level of congruence between education and research on the one hand and development on the other.

In the light of the undisputed developmental roles of education and research in the emancipation of a people economically, socially and politically, or even culturally, as well as the fact that education and research are not well-funded in Nigeria (Babalola, 2001; Falase, 2004; Onuka, 2007b), and in view of the fact that

research results are underutilized if it is at all utilized (Onuka and Onabamiro, 2008), it becomes necessary to undertake a study to verify how and the extent to which higher education and research can be utilized to sustain national development. Studies have not shown strength of research and education in promoting sustainable development, hence, the need for this study. Therefore, the study focuses on evaluating the perceived contribution of research and Nigerian higher education system respectively to sustainable national development in Nigeria. In other words, the study specifically addressed the perceived contributions of research and education to sustainable development in Nigeria.

RESEARCH QUESTIONS

The following questions were raised to provide answers the problem of the study set out to address.

1. Is there significant relationship between research and higher education, and sustainable national development?
2. What significant perceived contribution is making to sustainable development in Nigeria?
3. What significant perceived contribution is higher education making to sustainable development in Nigeria?
4. What is the perceived contribution of both research and higher education to sustainable development in Nigeria as viewed by stakeholders?

METHODOLOGY

A survey procedure adopting the ex-post facto research type was employed to verify the level of research findings that are applied in the productive sectors and how the Nigerian university system and its research undertakings had assisted sustainable development of the nation.

SAMPLING PROCEDURE AND SAMPLE

Multi-stage sampling technique was used. First, stratified random sampling procedure was used to categorise national development sectors and research/education institutions into four namely: higher education institutions and research centres/institutes

on the one hand and research findings consuming sector into private productive sector and consumers.

Secondly, purposive sampling was used to select two higher educational institutions and two research institutes from which subjects were randomly chosen as shown in the table below:

Description	Number of subjects	Percentage
Higher Educational Institutions	100	33.33
Research Institutes	25	8.33
Private Sector	50	16.67
Consumers	125	41.67
Total	300	100

An instrument tagged 'Research and Higher Education and Development Questionnaire' developed and validated, using test-re-test for the reliability which produced 0.76 reliability coefficient and validity coefficient of 0.69 using factor analysis, by the researchers was used for data collection.

This instrument contained demographic data of respondents in respect of their background and what they do and two sections on the importance of research findings utilization and the resultant effect on sustainable development with twelve and thirteen items each respectively.

The instrument was administered with the aid of research assistants on the subjects. Data collected were analysed using percentages, Pearson product moment correlation and multiple regression analysis statistics.

RESULTS AND DISCUSSION

The results in Table 1 showed that the various stakeholders agreed that there was some positive correlation/relationship between evaluation/research

Table 1
The Correlation Coefficient of the Perceived Relationship Between Research and Development in Nigeria

Description	R	Level of significance	Remark
Educational Institutions (EI)	0.64	0.05	Si
Research Institutes (RI)	0.78	0.01	Si
Private Sector (OPS)	0.28	0.05	Si
Consumers (C)	0.35	0.05	Si

and development in varying degrees. For instance, 64% of respondents and 78% of respondents from educational institutions and research institutes respectively believed that high positive correlation existed between evaluation/research (E/R) and development in Nigeria. Yet, those from the organized private sector and consumers posit that though there exists positive correlation between E/R and development, but it is low (OPS, 28% & consumers, 35%). Therefore, this disparity is that former groups are engaged in the art of researching and disseminating findings and as such are more likely to know the level of research findings utilization in Nigeria. Even at that, we find that those in research institutes had a higher perception of research. Basically, that is all they are employed to do and could, therefore, not afford to market their findings more aggressively with attendant follow-up, whereas those in educational institutions have been teaching, in addition to doing research and who mostly market their research results through seminars, conferences and workshops and possibly no more and could be, therefore, know the extent to which their research findings are utilized. The views of the academia and researchers contradict the findings of Onuka and Onabamiro (2008) that research findings particularly in the education industry is underutilized, yet the views of the organized private sector and consumers seem to confirm their finding. This also gives credence to the views of Onuka and Emunemu (2008) that higher education, and by extension, research, can achieve their purposes only when adequately funded and encouraged to pursue the goals for which they were established.

Table 2

The Correlation Coefficient of the Perceived Relationship Between Higher Education and Development in Nigeria

Description	R	Level of significance	Remarks
Educational Institutions	0.71	.01	Sig
Research Institutes	0.67	0.01	Sig
Organized Private Sector	0.41	0.05	Sig
Consumers	0.37	0.05	Sig

Table 2 indicated how the various categories of respondents perceived the relationship existing

between education and sustainable development in Nigeria. Respondents from higher educational institutions believed that 71% relationship existed between education and development, 67% of those from research institutes agreed that there was 67% relationship between education and sustainable development, while 41% and 37% respectively of the subjects used in the study from the organized private sector (OPS) and consumers were of the view that education promotes sustainable national development in Nigeria. The practitioners in fields of research and education possess higher view about the relationship between education and development, though in slightly varying degrees (71% and 67%) which was a respective reversal of their views on research and development. Here, the academics attached higher premium to the role of education as opposed the researchers in the research institutes attaching more premium to role of research in national development. The finding here supports the finding of Akorede and Onuka (2008) that education promotes development and the lack of it inhibits sustainable national development. It also lends credence to the call on government and other stakeholders to fund university education adequately if rapid national development were to be achieved in Nigeria in the foreseeable future (Onuka and Emunemu, 2008). By implication, therefore, advancement of education and national development is jeopardized. Something thus needs to be done to arrest the ugly situation and ensure that deliberate effort must be made to utilize research findings for both higher education development and the concomitant national develop of Nigeria.

These Tables presented the level of perceived contribution of E/R and Education to sustainable development according to the organized private sector. This was reflected in the multiple regression with co-efficient of 0.66. The multiple R² (adjusted) showed the level to which these variables both accounted for 44% of the total observed variance in sustainable development from the perspective of the consumers in the Nigerian economy. Thus, indicating that 44% of change in development is due to the combination of evaluation/research and education. This outcome provides credence to the communiqué issued at the

Table 3

(a) Perceived Contribution of Research and Higher Education to Sustainable Development in Nigeria (OPS)

Multiple R=0.62

Multiple R² (Adjusted) =0.38

Standard error 4.02

Analysis of Variance

Source of Variation	SS	MS	F-Ratio	P-level
Regression	229.15	114.7	7.105	0.05
Residual	370.89	16.12		

(b) Parameter Estimate

Description	B	SE_B	BETA	P-Level
E/R	0.574	0.322	0.354	0.05
Education	0.527	0.305	0.344	0.05
Constant	9.164	5.689		

1999 Centre for Management Development, Lagos, Nigeria Annual Conference of Heads of Research & Development (R & D) in Nigeria public and private sectors that R & D would play critical role in the implementation of Vision 2010. It also confirms the views and findings of scholars that research and education are vital tools for national development (Onuka, 2004; Onuka, 2007a; Nweze, 2001; Imade, 2001) that the use of research results contribute immensely to development of any nation and every sector of an economy. The implication is that there is the need to pay greater attention to utilization of research findings in Nigeria to engender rapid development of the economy. It also implies that the consumers are able to observe some positive changes in what they consume and thus attribute some of these changes to research and education. This level of perception of the contribution of research/evaluation and education to national development by the OPS portends lack of symbiotic relationship in curriculum development and research plan between the institutions and those who should be the primary consumers of their products i.e. the corporate bodies. Thus, had the government formulated research outcome dissemination policy and set up an agency for the purpose of disseminating research outcomes, the situation would be improved. It also implied that there is the necessity for government and the various

stakeholders in the enterprise of research utilization to brainstorm and jointly set up a national research agenda for researchers.

Table 4

Contribution of Evaluation/Research and Higher Education to Sustainable Development in Nigeria (Consumers)**(a)**

Multiple R=0.66

Multiple R² (Adjusted) =0.44

Standard Error=3.48

Analysis of Variance

Source of variance	SS	MS	F-Ratio	P-Level
Regression	218.53	109.26		
Residual	277.93	12.08	9.042	0.05

(b) Parameter Estimate

Description	B	SE_B	BETA	P-Level
Evaluation/Research	0.487	0.278	0.331	0.05
Education	0.529	0.238	0.419	0.05
Constant	4.672	5.183		

Table 4 a & b depicted the perception of the contribution of evaluation/research to sustainable development in Nigeria as viewed by the OPS of the Nigerian economy. The multiple regression coefficient of 0.66 indicates their perception of the combined contribution of research and education to sustainable development in Nigeria. The coefficient of determination of 0.38 indicates that such contribution accounts for 38% of the total variance in developmental changes in Nigeria. This result is perhaps indicative of the low level of importance those who ought to utilize research results and education products attach to research and higher education in the country. It could also mean that research carried out in the country and the type of education being given to the youth bears little or no relevance to the needs of the society and the various sectors of the economy. If the latter is the case, then it calls for further research to find out why there is only an infinitesimal level of utilization of both products. This, however confirms the finding of Onuka and Onabamiro (2008) that one of the challenges of educational research an-

evaluation in Nigeria is that little attention is given to them and the finding of Onuka and Emunemu (2008) that higher education and by extension research are not adequately funded. This implies that more attention and funds should be devoted to this twin vehicle of national development if development in Nigeria were to be sustained. It also implies that researchers and evaluators should be given adequate training so as to make them carry out researches that would be relevant to the need of the Nigerian society. The finding from the perspective of the consumers agrees with the implied meaning attached to research as a tool for development (Obanya, 2007). This is perhaps why they could decipher the function of research and education in what they consume due some forms of improvement they might have observed in what these goods/services.

Table 5
Perceived Contribution of Research and Higher Education to Sustainable Development in Nigeria (Educational Institutions and Research Institutes)

Multiple R = 0.75				
Multiple R ² (Adjusted) = 0.49				
Standard error 2.25				
<i>Analysis of Variance</i>				
<i>Source of Variation</i>	<i>SS</i>	<i>MS</i>	<i>F-Ratio</i>	<i>P-Level</i>
Regression	239.15	124.57	9.11	0.05
Residual	380.89	17.12		
Parameter Estimate				
<i>Description</i>	<i>B</i>	<i>SE-B</i>	<i>BETA</i>	<i>P-Level</i>
E/R	0.574	0.332	0.354	0.05
Education	0.527	0.305	0.344	0.05
Constant	9.164	5.689		

The above Tables showed how much the combination of respondents in educational institutes perceived that education and research (since education and research are twin tools for development) predicted sustainable development in Nigeria. They perceived, as shown by the multiple R (0.75), that both research and education could predict development by as much as 75%, while variation, as depicted by the coefficient of determination (R²=0.49), in development is

accounted for by 49% due to research and education. Their individual contribution is shown in the second sub-Table of Table 4 as shown by the Beta values of 0.354 and 0.344 respectively, which are very close. Thus indicating education and research as viewed by practitioners in both fields are twin brother-tools for development. Therefore, confirming the view of Onuka (2007a) and Onuka and Onabamiro (2008) as well as Akorede and Onuka (2008) that research and education are twin tools for sustainable development of any nation. This finding also corroborates the assertion in the Cape Town Statement (2009) at the International Conference on life-long learning, higher education and active citizenship that research and education co-inhabit and work together for the furtherance of one or the other.

All the respondents from the four sub-populations agreed that research and education play tremendous roles in sustaining national development. Thus, if the government is serious about being one of the twenty most developed countries in the world, it has no option but devote substantial amount of its resources (human, material and money) to research and higher education—the twin-tools for sustainable national development. However, the respondents also agreed that the organized private sector makes less use of research findings in Nigeria and that they hardly also encourage the funding of research endeavours. Hence, their little or no interest in utilizing research results.

CONCLUSION

It is no longer a hidden fact that research/evaluation and education are twin tools for sustainable development, the world over, and Nigeria can not be an exemption. It is imperative, therefore, that research and education must be themselves development in order to engender sustainable national development in Nigeria. Education and research cannot be ignored, because doing so will be at the peril of national development. Thus, it has become imperative for concerted effort to be made to establish a central research findings bank to harness, collate and disseminate as well as market research findings or individual researchers, research institutes and higher educational institutions.

Based on the findings earlier discussed, the following recommendations are hereby made:

- Higher Education must be developed and given top priority funding attention, and staff in educational institutions be given constant training and retraining to keep up with current developments world wide to enable them contribute more meaningfully in terms of the efforts they put into their work and the resulting likely quality output.
- Our educational curricula must be made relevant to societal needs and should be developed in a symbiotic relationship with the users of our educational outputs.
- Research should also be given priority funding attention, and researchers rewarded adequately in order to motivate them for better productivity.
- Relevant researches to national development should be encouraged and sponsored, not only by government, but also by corporate bodies. Research findings should be well-marketed to enable corporate bodies key into them and thus utilize them.
- More relevant research activities should be planned and executed as well as properly disseminated through appropriate fora.
- Government should formulate a national research outcome dissemination policy, set up an agency to coordinate the dissemination of research findings to the appropriate 'publics,' as well as brainstorm with relevant research outcome utilization stakeholders with whom it should jointly set research agenda for research institutes and higher educational institutions.
- There should be joint partnership among stakeholders namely government, research institutes, higher institutions, organized private sector and philanthropists in funding and encouraging utilization of research findings in promoting sustainable development in Nigeria.
- Research bank should be jointly established by the public and private for the promotion of research findings utilization.

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