THE FUTURE AND RELEVANCE OF NIGERIAN UNIVERSITIES AND OTHER TERTIARY INSTITUTIONS: TOWARDS HIGHER EDUCATION TRANSFORMATION

The future of Higher Education, Research, Science, Technology and Innovation in Nigeria: Pragmatic Action Plans:

- *The concept of World Class Institutions and its attainment;*
- *Universities for Development/Entrepreneurial Universities;*
- *HEIs – Industry/Civil society partnerships;*
- *International cooperation and global networking.*

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INTRODUCTION

Higher Education Institutions modeled on those of the colonising countries (eg. Britain and France) were established in countries such as Ghana, Sudan, Nigeria, Senegal, Madagascar, Congo and Uganda (Ajayi, et al., 1996). By 1960 the sub-Saharan Africa (excluding South Africa) had only 10 universities training mainly civil servants, but the numbers were soon to increase as newly independent countries in the 1960s and 1970s clamoured to have national universities, which they considered part of post-colonial development efforts and as matters of national pride. The current state of Higher Education in sub-Saharan Africa is, therefore, a product of various influences – colonial, post-independence, market forces (globalisation and internationalisation) as well as the recent world economic crises.

During the past two decades sub-Saharan African countries, as in other developing countries and emerging economies, have witnessed tremendous growth in the numbers of tertiary institutions and in student numbers. There are now over 800 university-level and other tertiary institutions in the region catering for about 10 million students.

From one university at the time of independence in 1960, Nigeria in 2012 has 124 universities made up of 37 federal, 37 state and 50 private institutions (National Universities Commission (NUC), 2012), complemented by other tertiary level institutions, including76 polytechnics (National Board for Technical Education (NBTE), 2012) and 63 colleges of education (National Commission for Colleges of Education (NCCE), 2012). This exponential rise in the number of tertiary institutions has been mainly to widen access.

Serious questions have been raised about the quality and relevance of the education being delivered to national development. A study by Okebukola et al. (2005) provides evidence that university graduates do not have the necessary skills required by the world of work. In the absence of entrepreneurial skills they are unable to develop on their own and become employers rather than employees.

There is also concern for the international standing of most of the Nigerian institutions of higher learning.

For the Consultative Policy Dialogue this paper looks specifically at the following issues:
- The concept of World Class Institutions and its attainment;
- Universities for Development/Entrepreneurial Universities;
- HEIs – Industry/Civil society partnerships;
- International cooperation and global networking.

NIGERIAN UNIVERSITIES IN SEARCH OF RELEVANCE

The World Bank's 1998/99 'World Development Report: Knowledge for Development' (World Bank, 1999) was clear in its identification of four main areas which could guide countries in transforming into knowledge-based economies: a) an appropriate economic and institutional regime, b) a strong human capital base, c) a dynamic information infrastructure, and d) an efficient national innovative system.

It is generally agreed that higher/tertiary education has a crucial role to play towards the achievement of any such transformation, particularly, in the development of the required

human resource and in and contributing to an efficient innovative system. National governments are therefore looking up to universities to provide the much needed highly skilled human resource to meet national needs. They also expect leadership in the area of policy analysis and knowledge creation and dissemination, which is why countries are much concerned about the type and status of their universities.

The Concept of World-Class Institution and its Attainment

The concept of 'world-classness' of higher education institutions is not new; it dates back centuries. After all, many medieval universities were international in character with students attending universities such as Paris and Bologna coming from various European countries, including England. Their international dimension and status no doubt made these institutions world-class.

In recent times the definition of 'world-class' has been broadened to include many more parameters. This is why a clear definition of a world-class institution has eluded most researchers. There is common agreement however that those institutions considered world-class universities possess certain characteristics, which Salmi (2009) summarizes as follows (see also Fig. 1):

- High concentration of talent (faculty and students);
- Abundant resources (rich learning environment and to conduct advanced research);
- Favourable governance – encourage strategic vision, innovation, flexibility – not encumbered by bureaucracy.

Many universities in Africa, and elsewhere, have envisioned themselves to become world-class institutions. This aspiration, reflected in newly-crafted vision and mission statements which adorn the websites of these institutions is a recognition of the fact that the status provided access to wider resources and unique opportunities for development.
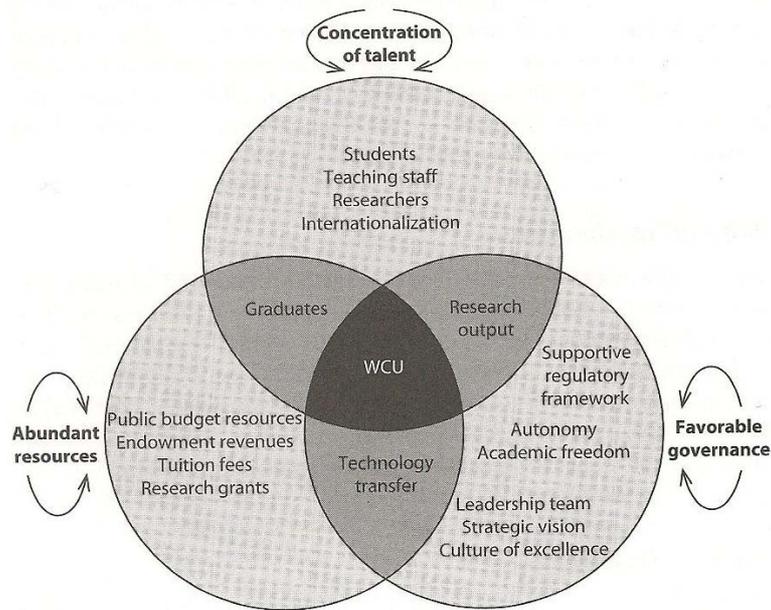
Fig. 1. Characteristics of a World-Class University (WCU): Alignment of Key Factors
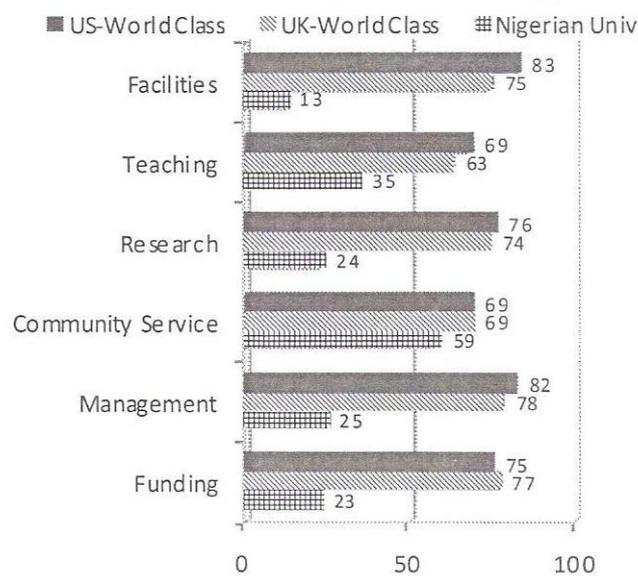*Source: Salmi, 2009*

Fig. 2. Gap Analysis Between Nigerian University and World-class UK and US Universities
Source: Okebukola, 2010

How Do Nigerian Universities Fare in the Ranking of Universities?

The publication of university rankings by the Shanghai Jiao Tong University (SJTU) in 2003 was the beginning of a more objective way of preparing 'league tables' of universities. The methodologies and the parameters measured, have received much criticism over the years resulting in some refinements.

The SJTU ranks universities that have Nobel laureates, Fields medal winners, highly cited researchers and papers in Nature and Science as well as universities with significant numbers of publications indexed in the Science Citation Index and Social Science Citation Index. It ranks over 1,200 institutions and publishes the best 500 in what is known as the Academic Ranking of World Universities (ARWU).

The Times Higher Education (*THE*) World University Rankings system uses data collected by Thomson Reuters through survey of academics from various fields on teaching and research alongside 13 performance indicators grouped into five areas – teaching (learning environment), research (volume, income, reputation), citations (research influence), industry income (innovation), international mix (staff, students and research) (*THE,* 2012-2013).

The Ranking Web of World Universities (Webometrics) carried out by the Cybermetrics Lab in Spain looks at the total number of webpages hosted in the main web domain (including all the sub-domains and directories) of the university as indexed by the largest commercial search engine (*Presence*), the quality of the contents evaluated through a "virtual referendum", counting all the external inlinks that the University web domain receives from third parties (*Impact*), the number of rich files (pdf, doc, docx, ppt) published in dedicated websites according to the academic search engine Google Scholar (*Openness*), and the academic papers published in high impact international journals (*Excellence*).

In the 2012 SJTU rankings there is no African university among the top 500, while only four, all from South Africa, featured among the 400 ranked by the *THE* (Cape Town - 103, Witwatersrand –226-250 cluster, Stellenbosch – 251-275 cluster, Kwazulu-Natal – 350-400 cluster). In the Webometrics system, which examines thousands of institutions and also gives regional rankings, no Nigerian university appeared in the top 25 African universities in the latest publication (July 2012) (Table 1). As with previous editions, South African and Egyptian institutions dominate the rankings in Africa. Nigerian universities that appear in the top 100 in Africa and their positions are shown in Table 2.

Clearly, Nigerian universities have a long way to go in order to be among the top universities even in Africa. Okebukola (2010) studied the gaps between a 'median-ranked' Nigerian university and one 'median-ranked' world-class university each in the United States and United Kingdom (Fig. 2). It is only in community service, howsoever defined, that the Nigerian universities come anywhere near their US and UK counterparts.

Table 1. Ranking Web of World Universities (Webometrics): Top 25 Africa, July 2012

Africa Rank	Institution	Country	World Rank
1	University of Cape Town	South Africa	336
2	Stellenbosch University	South Africa	337
3	University of Pretoria	South Africa	611
4	Rhodes University	South Africa	671
5	University of Kwazulu-Natal	South Africa	773
6	University of Witwatersrand	South Africa	777
7	Cairo University	Egypt	796
8	University of South Africa	South Africa	1012
9	University of the Western Cape	South Africa	1017
10	Ain Shams University	Egypt	1109
11	Makerere University	Uganda	1174
12	Polytechnic of Namibia	Namibia	1319
13	University of Khartoum	Sudan	1394
14	University of Nairobi	Kenya	1435
15	Nelson Mandela Metropolitan University	South Africa	1452
16	American University of Cairo	Egypt	1518
17	Mansoura University	Egypt	1685
18	University of the Free State	South Africa	1786
19	University of Ghana	Ghana	1797
20	University of Johannesburg	South Africa	1831
21	Addis Ababa University	Ethiopia	1903
22	Cape Peninsula University	South Africa	1949
23	University of Dar es Salaam	Tanzania	1977
24	Sudan University of Science and Technology	Sudan	2020
25	Université Mentouri de Constantine	Algeria	2185

Source: *Cybermetrics Lab, July 2012*

Table 2. Nigerian Universities among Top 100 in Africa (Webometrics, July 2012)

Africa Rank	Institution	World Rank
31	University of Benin	2485
32	Auchi Polytechnic	2487
45	University of Ibadan	3215
47	University of Ilorin	3342
55	University of Lagos	3691
64	University of Nigeria	4031
76	Ahmadu Bello University	4379
79	Obafemi Awolowo University	4433
88	University of Jos	5040
94	Covenant University	5489

Source: *Cybermetrics Lab, July 2012*

Research, Science, Technology and Innovation in Nigeria

The ability to generate and effectively use knowledge contributes greatly to the creation of wealth for nations. African countries however have serious challenges in generating, accessing and disseminating knowledge, as well as a near absence of effective innovation systems.

An effective innovation system is one that is able to keep up with new knowledge and technologies, tap into the growing stock of global knowledge and assimilate and adapt it to local needs. Innovation therefore hinges on original ideas and insights which have value and which touch many lives making a positive difference in them.

A nation's innovation system includes firms, research centres, universities, consultants and other knowledge-based resource persons. The innovation system is measured by parameters such as the number of researchers engaged in research and development (R&D) per million inhabitants, the number of patent applications granted and the number of scientific and technical journal articles published (Oyewole, 2010).

Although Africa is home to over 12% of the world's population, its share of researchers in 2009 was the lowest at 2.1% and 143.8 per million of population (Table 3). Its portion of scientific publications has been declining over the years. Although the actual numbers of publications increased by about 38% since the mid-1990s, the rate of increase is less than the world average (Tijssen, 2007). Sub-Saharan Africa has fallen behind from a 1% share in 1987 to 0.7% in 1996, with only slight improvement in recent times (Table 4). Africa has lost 11% of its share in global science since its peak in 1987; sub-Saharan science has lost almost a third (31%) (Tijssen, 2007). How well Nigeria does among selected developing and emerging economies is shown in Table 5.

Generally, there is a significant over-representation of the medical and life-sciences in African research articles, 61% compared to 44% worldwide ((Tijssen, 2007). How Nigeria performs in this area is therefore of interest. A search of the PubMed online database using the country names as keyword for publications within the last 2-years (courtesy O.A. Mokuolu, University of Ilorin) revealed the following number of publications; Ghana-795, Kenya-1613, **Nigeria-3179**, Egypt-5028, and South Africa-7643. In the same search, the United Kingdom returned a figure of 54,523 and America, 97,076 publications. Furthermore, there is an issue with quality of research output. When medical journals published in Nigeria were subjected to the "rule of evidence" which is designed to grade clinical and research findings according to strength, about 45% of the publications assessed from local journals were classified as "non-evidence" over a two year period 2005-2006 (Adeyemo *et al*., 2008). There was no publication classified as having level I evidence among the Nigerian journals assessed, while only 11% of the published articles were rated to have level II to III evidence.

Several factors, which are well-known, account for this situation. Over the years, inadequate funding (Table 5) has resulted in deterioration of infrastructure and equipment for teaching and research, poor working conditions including low remuneration, and brain drain. Poor ICT infrastructure coupled with the high cost of bandwidth make it difficult to access information for teaching and research.

Table 3. World Share of Researchers (2009)

Region	Researchers (1000s)	World's Share of Researchers (%)	Researchers/Million Population
North America	1,588.6	26.8	4,653.2
Latin America and Caribbean	264.2	3.6	452.8
Europe	2,179.4	31.1	2,691.1
Asia	2,672.5	38.2	660.2
Oceania	152.2	2.2	4,230.7
Africa	143.7	2.1	143.8
North Africa	87.1	1.2	414.5
Sub-Saharan Africa	56.6	0.8	71.7

Source of Data: *UNESCO Science Report, 2010.*

Table 4. World Share of Scientific Publications

Region	Total Publications		World Share of Publications (%)	
	2002	2008	2002	2008
North America	250,993	306,676	34.2	31.1
Latin America and Caribbean	27,650	48,719	3.8	4.9
Europe	333,317	419,454	43.5	42.5
Asia	117,743	303,147	24.2	30.7
Oceania	23,246	33,060	3.2	3.4
Africa	11,776	19,650	1.6	2.0
North Africa	4,988	8,607	0.7	0.9
Sub-Saharan Africa	6,819	11,142	0.9	1.1

Source of Data: *UNESCO Science Report, 2010*

Table 5. Number of Researchers (FTE) per Million Population, Expenditure on R & D as % of GDP in Selected Countries (Years for which latest data are available vary)

Country	Researchers/Million Population	Expenditure as % of GDP
Brazil (2010)	704	1.19
Egypt (2009)	420	0.21
Ghana (2007)	17	0.23
Kenya (2007)	56	0.42
Malaysia (2006)	365	0.63
Nigeria (2007)	39	0.22
Singapore (2009)	6173	2.27
South Africa (2008)	393	0.93
Uganda (2009)	53	0.41

Source of Data: *UNESCO Institute for Statistics, 2012*

The Way Forward

The foregoing analyses show some of the short-comings in the Nigerian higher education, research, science and technology and innovation systems, which call for new strategies and actions. In the following sections, we discuss some of the strategies and actions highlighting differentiation and internationalisation of Higher Education Institutions, beginning with attainment of world-class status.

Attainment of World-Class Status: the Process

Being world-class is not attained by self-declaration, but by international recognition (Salmi, 2009). The path to world-class status is fraught with many challenges. The decision to establish world-class universities is made at two complementary levels, government or system level and level of individual institutions (Salmi, 2009; Obanya, 2010). In most countries, especially in the developing world where most of the large HEIs are publicly owned, only the state is capable of providing the kind of resources needed to set up a world-class university quickly. Governments are also responsible for formulation of appropriate policies, such as those on autonomy and accountability, in which the institutions function.

If a government should decide to establish world-class universities, it will face three basic strategic options, which, in practice, are not mutually exclusive and each of which has its strengths and weaknesses (Salmi, 2009). It may elect to:

1. Create completely new institutions with sufficient resources and direction to make them world-class.
2. Identify existing institutions with potential and provide them with the necessary resources. A case in point is when in 1998 China decided to promote development and reputation of its higher education system and as national priority for the 21st century, it launched Project 985 and later, Project 211 in which government allocated large amounts of money to certain universities to build research centres, improve facilities, hold international conferences, attract world-renowned faculty and visiting scholars and help their faculty to attended conferences abroad (Peking and Tsinghua Universities received RMB 1.80 billion each – equivalent of USD$285 million).
3. Merge existing institutions that collectively may have strengths that can be harnessed into to transform them into a world-class institution.

Crucial at the institutional level are issues of leadership, formulation of vision and mission, honest and objective self-assessment, strategic planning and determining targets and goals to be achieved. A checklist of questions that arise and which need to be answered candidly is provided in Box 1 (Salmi, 2009).

A lot of political will is needed especially in selecting which institutions will be supported for upgrade and in determining their new missions. The NUC should consult with all stakeholders, especially, the Committee of Vice-Chancellors and advise the Government on the way forward.

For the process of transformation itself, Okebukola (2010) suggests a helpful sequence of activities that could be followed taken by nations or institutions that embark on the path towards world-class status (Fig. 3). Care should be taken in selecting the benchmark institution. Questions may arise in this. Why a particular institution? Is it merely because of reputation, or their missions and visions are similar to yours? Should it be an institution in the

north like Oxford that is 900 years old, or like the 375 years old Harvard; or, an institution in the south that has challenges similar to yours but is doing well, like the National University of Singapore (92 years) and the University of Cape Town (183 years).

Box: Checklist of questions to be answered to guide the quest toward establishing World-class Universities.

1. Why does the country need a world-class university? What is the economic rationale and the expected added value compared with the contribution of existing institutions?
2. What is the vision fro the university? What niche will it occupy?
3. How many world-class universities are desirable and affordable as a public sector investment?
4. What strategy will work best in the country context: upgrading existing institutions, merging existing institutions, or creating new institutions?
5. What should be the selection process among existing institutions if the first or second approach is chosen?
6. What will be the relationship and articulation between the new institution(s) and existing tertiary institutions?
7. How will the transformation be financed? What share should fall under the public budget? What share should be borne by the private sector? What sort of incentives should be offered (for example, land grants and tax exemptions)?
8. What are the governance arrangements that must be put in place to facilitate this transformation and support suitable management practices? What level of autonomy and forms of accountability will be appropriate?
9. What will the government's role be in the process?
10. How can the institution build the best leadership team?
11. What are the vision and mission statements, and what are the specific goals that the university is seeking to achieve?
12. In what niche(s) will it pursue excellence in teaching and research?
13. What is the target student population?
14. What are the internationalisation goals that the university needs to achieve (with regard to faculty, students, programs, and so forth)?
15. What is the likely cost of the proposed qualitative leap, and how is it going to be funded?
16. How will success be measured? What monitoring systems, outcome indicators, and accountability mechanisms will be used?

Source: *Salmi, 2010*

World-class Universities for Nigeria?

It is evident from their individual vision and mission statements that most Nigerian universities, if not all, would like to be world-class, in the present sense of the word. Is this possible? Is this desirable?

The answer to either question should be an emphatic no! The cost of such an enterprise is unimaginable. Even in countries with large and healthy economies, only a small numbers of their universities can be considered truly world-class. China with its huge trade surplus is supporting only a hundred or so of its more than 1600 universities to achieve anything near world-class standards through the Projects 985 and 211. Nigeria therefore cannot have 124 world-class universities. As Hawawini (2011) states in a recent article on internationalisation of higher education "*Any attempt to transform themselves [HEIs] into truly global institutions is unlikely to succeed and may divert them from their fundamental mission to educate their home-based students and help them become effective global citizens*".

Differentiation of Institutions: Rationalizing the Higher Education System

It is acknowledged that tertiary education's contributions to sustainable development of a country require a variety of well-differentiated institutions, and not just research universities (World Bank, 2002), but with each type playing a unique role in developing the necessary manpower required for the country's development.

Efforts should therefore be directed at establishing a well-differentiated tertiary education system that will provide options for all who desire it and, with research institutions, form one coherent innovation system. Each type of institution should have well-clarified missions. Together, the institutions should be able to provide the right mix of manpower. Table 6 provides a common classification system for universities. Added to these will be the polytechnics and other non-degree awarding technical and professional institutions.

In the process of differentiation several approaches have been adopted. All these approaches aim at making each institution play a more active part in social and economic transformation. There is the development approach which emphasises the role of the institution in community development. Another is the entrepreneurial approach emphasises the need for business principles to generate additional income. A third is the skills-acquisition approach in which the institutions are linked to industry to enhance skills for the labour market. We now discuss these approaches.

Universities for Development

Universities in the past, particularly those modeled on the British tradition, have been assigned to teach, research and provide service. Over-concentration on the first two, teaching and research, in terms of generation of new facts and knowledge, to the near neglect of what happened in society and, the production of an elite class in society led to the tag "the ivory tower" which has remained to this day. Two illustrations will suffice.

One was a comment made by the Dean of Christ Church in Oxford in a university sermon about a hundred years ago. He said the advantages of a classical education are twofold,"... it

Table 6. Distinguishing Features of Various Types of Universities

| Indicators	Research Universities	Universities	University Colleges
Postgraduate enrolment	25% of total enrolment; ratio of masters to doctoral is 5:1	Postgraduate enrolment is above 10%; ratio of masters to doctoral is 10:1	Postgraduate enrolment is 10% or less; ratio of masters to doctoral is 10:0
Academic staff (permanent) qualification	All permanent staff with doctorate degrees. 50% professors	All permanent staff with doctorate degrees. 20% professors.	Less than 30% of staff with doctorate degrees. Less than 10% professors.
Research and publications	At least 0.5 publication units per permanent staff per annum.	Ratio of 0.25 to 0.49 publication units per permanent staff.	Ratio of publication units per permanent staff is less than 0.25.
Doctoral graduates produced in a given year	10% or more of permanent academic staff.	Between 5% and 9.9% of permanent academic staff.	Nil.

Source: Bailey, Colete & Pillay.
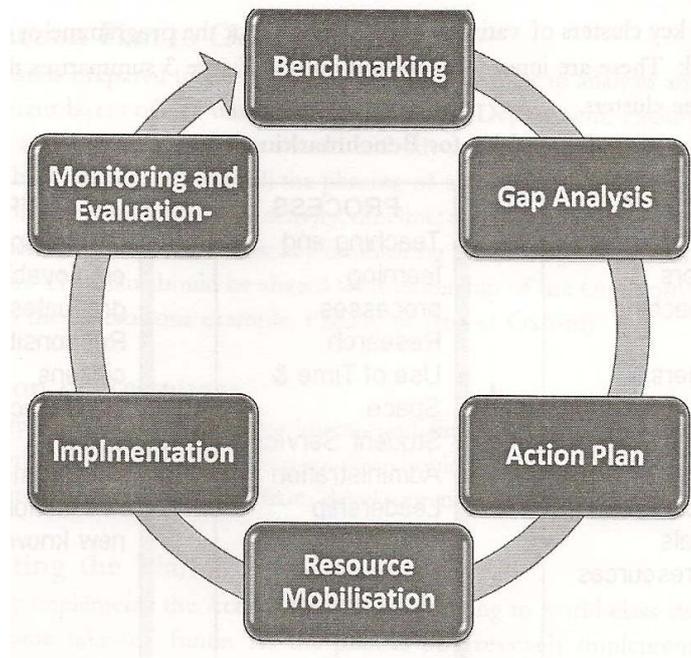
Fig. 3. Steps to Attaining Word-Class Status
Source: *Okebukola, 2010*

allows us to look with contempt on those who have not shared it, and it fits us for places of emolument, both in this world and in that which is to come." (Bowden, 1977, p. 19). The second illustration also attributed to Lord Bowden (1977, p. 18) is the statement that universities were almost useless to industry, had nothing to do with the creation of wealth, were content to be centres of privilege and boasted that they had nothing to do with industry or commerce.

It is within this context that the concept of developmental university has been born to try to address some of the developmental imperatives in countries, particularly those in Africa and to find out what space universities have in this new paradigm.

The best illustration of the developmental university concept is the American example of how the Land Grant colleges or what were sometimes called the A and M Colleges were used to tame the continent and to enhance agriculture production in the US.

At the great Boston convention in 1848 to discuss the future of education in America, agreement was reached on two major needs, namely, improvement in agriculture and the founding of new institutions to provide an education of the highest standards for recruits to all the trades and professions. The result was the passage of the Morill Act which enjoined every state to provide 30,000 acres of land as an endowment to start a land grant university. The new universities were expected to study the problems confronting agriculture in America and to find solutions to them. The motto of the University of Wisconsin, one of the former Land Grant Colleges "The boundary of the campus is the boundary of the state" amply illustrates the interface which existed between the state and the university. The universities existed "…to tell anyone in the state anything he wanted to know, to undertake research into unresolved problems of the community and to teach undergraduates" (Bowden, 1977), what American university presidents call the three legs of the three-legged stool.

The ordinary farmers in America were brought up to date on all issues affecting them by the university. No wonder that it used to be said that the Great American West was conquered in the laboratories of the Land Grant Colleges and that their graduates tamed the continent. It was computed that more than half of all the crops grown in the United States depended on work which had been done over the generations by the Land Grant Colleges and their graduates. With this experience, one could not more than agree with Lord Bowden (1977, 33) that "no important modern country can long endure or prosper if it does not possess a university of its own."

The concept of 'developmental universities' is relatively recent in Africa. One of the earliest examples of the manifestation of the concept of developmental university in Africa was in Tanzania where there was a bold effort to move the university of Dar es Salaam from its ivory tower to address the developmental needs of society. The University of Dar es Salaam, like many others in Africa, had been modeled along the British tradition where academic progress was measured chiefly by term papers and end-of-year examinations (Mkude et al., 2003, p.2). Although the University depended totally on government for funding, it was relatively self-governing with the freedom to determine its structure and course content, modalities of assessment and admission requirements.

Upon becoming an independent national university in 1970, the University of Dar es Salaam was seen as a strategic weapon in the fight against poverty, ignorance and disease. In furtherance of this, a number of initiatives were taken, some of which drew the University

into government centralized planning. The Musoma Resolution of 1974, for example, directed that students were eligible for higher education only after they had completed a one year of compulsory national service and had a minimum of two years' satisfactory work experience and positive recommendations from employers. The University became tied to the development path and ideology of the state. A "Development Studies" course was introduced and made compulsory for all first-and second-year students, aimed among other things at,

- Guiding students to an understanding of alternative development strategies at both national and international levels; and
- Enabling students to develop appropriate tools for analyzing and resolving development issues as they related to their specific disciplines.

Field attachment or practical training which was hitherto limited to only professional courses was extended to all disciplines to enable students to apply theory to solving real-life problems and to give students an opportunity to acquire appropriate work experience to complement their academic training. With these developments, genuine attempts were made to shape the University as an instrument of development which was what led Ajayi et al. (1996) to the conclusion that Dar es Salaam had become the prototype of the Developmental University truly responsive to its society (Mkude et.al. 2003).

Further on, Ghana followed the Tanzanian example in the 1990's with the establishment of the University for Development Studies (UDS) in 1992. The UDS was modeled on the Land Grant University concept which was a departure from the British tradition on which the older Universities had been modeled. The University was specifically enjoined to address the developmental needs and deprivations which characterize the northern savannah zone within which the university was located. It was mandated to research into the needs and aspirations of the rural communities in northern Ghana in particular, and other parts of the country with the view to addressing them. To this end, the founding fathers of the University envisioned the introduction of a third trimester of eight weeks for all students devoted entirely to field practical training and attachment as an integral part of all programme of the University.

During this period groups of students are attached in selected communities in rural areas to identify specific problems of the communities and to propose ways of addressing them. At the end of each practical training session the students are required to organize seminars with participants from District Assemblies, non-governmental organizations (NGOs) opinion leaders and development partners, at which problems identified and proposed solutions are shared. This approach not only enabled the students to have first hand knowledge of the problems in the community and rural areas, but also prepared them for future careers as development agents in the rural areas in the country. The evidence is that since the university was established over the past two decades a good number of the graduates of the university have been working with NGOs, District Assemblies and Health facilities in rural areas all over the country as medical doctors, planning officers, teachers, agricultural officers and development agents in several other capacities.

We would like to believe it is this same spirit of universities as development agents and growth poles which led the Government of Nigeria to establish agricultural and technology universities and colleges all over the country. A number of questions immediately come to one's mind. Ajayi et. al. (1996) pose three of them, namely: 1) What constitutes development of a nation? 2) What are the factors or conditions that affect such development? 3) In what

way can a university most effectively influence these factors or conditions and thereby contribute to national development?

In terms of what constitutes development a number of thoughts have come up. There is however general agreement that countries aspire first to grow or to increase productivity which may be measured in terms of Gross Domestic Product (GDP), or Gross National Product (GNP).

So, the collective wealth of a nation needs first to be enhanced which is then translated into development where the benefits of growth permeate as high standard of living felt in all sectors of the economy. In this connection development is measured in terms of how the enhanced wealth of a nation is translated as schools and colleges, hospitals and clinics, roads and bridges as well as agricultural produce, manufacturing goods and services. Development may also be seen in terms of developed human capital and skills development, conditions which help a nation to reduce poverty, squalor and disease. In other words a nation may grow but not necessarily develop. If in a country growth in GDP benefits only ten percent of the people, that country may have a high GDP which may not translate into the schools and colleges, hospitals, roads, etc., which constitute the indicators of development.

The Entrepreneurial University

In spite of the many challenges that have occurred over the years, the core functions of the University have continued to be Teaching, Research and Service to Society.

There is very little exposure to the market and enterprise in the traditional University modeled on the British system. Not even the senior administrative and professional staff have been set out to build the university on business lines.

Owing to the model adopted, many Universities in Africa adopted a tuition free policy. Not only was tuition free, boarding and lodging were also free. One only had to acquire the required entry qualifications to enter the University. Every country aspired to build a University of its own and to train nationals at the undergraduate level to take over from colonial officials. It was not therefore the time to perceive fee paying or cost-sharing. The University was a national monument and also symbol of prestige. What mattered most was to produce graduates and professionals in sufficient quantities to assist in nation building.

Funding in those circumstances could be assumed for a number of reasons. First, the number of students involved was very low, and second since higher education was a priority, every country in Africa wanted to spend money to develop it. As a result, the first generation universities in Africa south of the Sahara started off very well. An effort was made to recruit qualified staff, many of whom were expatriates. Students who were admitted were very qualified. The library had the required titles of books and journals.

Staff were committed and dedicated. The result was that higher education in Africa was one of the best that one could think of. This development was relatively short lived as several events and circumstances combined to have a toll on the continent particularly during the 1970s and 1980s which led to marked deterioration in the conditions of higher education institutions. Universities in Africa had their fair share of the deterioration which characterized most of Africa in the 1980s, a period aptly described as the 'lost decade'.

Higher education institutions suffered a major setback. The period of 'glory' began to wane. Numbers of students increased in response to a number of educational reforms which were introduced. Unfortunately growth in student enrolment was not accompanied by expansion in physical and academic infrastructure. Conditions of service for staff worsened. Facilities such sabbatical leave and opportunities to attend conferences were all suspended in most institutions. The main activity on the campuses became teaching with little or no attention to research. Libraries became archival pieces devoid of any up-to-date books and journals.

Science laboratories deteriorated with the absence of reagents, chemicals and equipment for practicals. The result was that many academic and non-academic staff began to look for greener pastures outside of their countries of origin. The term 'brain drain' was almost on everybody's lips and used to describe the exodus of teachers and other professionals to other countries and sectors. The net effect on higher educational institutions was that cracks began to develop in all aspects of education, adversely affecting quality.

It was the state of affairs described above which triggered renewed thinking about the management and administration of higher education institutions, especially Universities. This cause was furthered by the support provided by development partners such as the World Bank to reform higher education in Africa. It was believed that returns of investment on higher education were considerably lower than those on basic education. The support by the World Bank to higher education was to enable the sector to reform itself towards self sustainability. It was this kind of thinking which led Professor Johann Mouton to refer to higher education as the stepchild of education in Africa (Carnegie Reporter Vol. 41 No 3, Fall, 2007).

The first item that the new thinking attacked was free boarding and lodging for University students. Following a series of consultations, forums and agitations African Universities were assisted by the Governments and development partners to divest boarding and lodging from academic work. This led to the emergence of hostels particularly with the participation of the private sector. There are currently several hostels on almost all campuses providing accommodation and catering facilities to students for a fee. What the University Managers and Government have done is to broker a reasonable fee regime at the hostels on campuses. Some of the universities have built their own hostels as income generating ventures.

Divesting academic work from boarding and lodging was only part of the bigger problem. The extent of deterioration and the substantial reduction of government support to higher education meant that a lot more creative and innovative ways had to be found to generate enough income for the higher education institutions to survive. This is what has characterized the period beginning from the 1990s.

Several models have been tried with varying degrees of success. Terms such as 'commoditization', 'marketization', 'entrepreneurial university', corporate 'managerialism' have come up in the process. As a choice, a number of countries and institutions have turned to America, to the corporate managerialism model, for direction. The extreme version of this model is to organize the University as a business venture. The president of the university has wide ranging powers. He has sufficient authority to recruit his team, to hire and to fire. He leads his team and board of trustees to develop a strategic plan which guides the future development of the institution. Among the skills considered for the appointment of a president and top management are strong strategic leadership, vision and resource mobilization skills. Top Management has specific target in terms of fund mobilization to

achieve. About seventy percent (70%) of the institutional funds are generated within the university. Alumni, Students Fees, Commercial Ventures and Philanthropies are all targeted in the resource mobilization drive.

Given Africa's special circumstances not all the avenues open to institutions in America are feasible in Africa. One of the earlier initiatives was the 'dual-track' model pioneered by Makerere University in Uganda. Its successes and difficulties have now become widely known. This is the system where there are two types of students, the first track regular enjoying tuition free education and second, the special students paying some fee for their education. It was more difficult to join the first regular group which is highly competitive. The second group, of course, must meet the minimum requirements and in addition must be prepared to pay fees for the programme chosen. This way, it was possible to join some of the very competitive programme such as Medicine, Pharmacy, Engineering and Nursing. While this model helped to generate money and kept lecturers busy teaching, it led to some discontent among the regular students who thought that they were not being given sufficient attention. While campus conditions improved and began to see paint, equipment, books and journals, research suffered which meant that teaching was not informed by new knowledge. Research output and publications declined. In this regard, entrepreneurship led to declining quality of academic provision.

Another dimension of the Entrprenurial University is the application of business principles to the operations of the university. A strong strategic leadership is required of all University leaders especially those in top Management positions. In recent times most advertisements for University positions like Vice-Chancellor, Pro/Deputy Vice-Chancellor, Registrar, Finance Officer/Bursar and Deans require a vision statement and possession of effective communication, interpersonal and problem solving skills, all attesting to the need for demonstration of some degree of business acumen in the day to day management of the university. Government, Students, Parents Development Partners and all Stakeholders who are making contribution to education are all asking for more accountability, quality and relevant education as well as value for money.

Private sector participation in higher education has become another vehicle for entrepreneurship. Private provision, particularly in the arts and humanities has heightened the nature of competition in the sector. More innovative and cost effective methods have been introduced in the delivery of higher education. Distance and virtual systems have emerged making it possible to have access to higher education anywhere. Sandwich and modular programmes have been introduced to make it easier for full-time workers to also have access to higher education.

The buss words here are scholarship, professionalism and entrepreneurship which impose greater responsibility on institutional heads and governments and their regulatory agencies to assure quality in educational provision.

The biggest obstacle to entrepreneurship is how to combine it with equity. The danger is that only those who can afford will be able to have places in the university. It is only when entrepreneurship is combined with such measures as scholarships and bursaries and other support mechanisms for the poor and needy students that entrepreneurship in terms of cost sharing and cost recovery can be meaningful. Another caution is to ensure that in the bid to generate money for the university, the core functions of the university are not compromised.

Higher Education – Industry/Civil Society Partnerships

Higher Education – Industry/Civil Society Partnership is not a recent phenomenon. In the US, as illustrated by the partnership between the land grant colleges and the community, each supported the other to their mutual benefit. In recent times, examples like the Silicon Valley in the US demonstrates what collaboration among government/state, higher education institutions and industry can achieve. In France and Germany, technical institutes and universities became the pillars that propelled industrial development.

Even in the United Kingdom where partnership between higher education institutions and industry is a recent development, such collaboration has gained momentum. One can cite the Warwick science park as well the innovation centres and university business incubators in Oxford and Cambridge as vibrant examples of university – industry collaboration that have yielded immense benefits to both the institutions and industry.

As has been noted, African higher education institutions, particularly those modeled on the British tradition did not have an early contact with industry. This is not unexpected, for, the first preoccupation of African governments and their higher education institutions was to produce civil/public servants to take over from the colonial administrations. The institutions, particularly universities, took the view that as with their mentors, the best training was to develop an enquiring mind so that the students could be versatile to fit into any situation. Scholarship was the main distinguishing feature of a university graduate, garnished with western values and credentials.

As the labour market was operating at less than ful capacity, and every graduate was assured of employment, the question of the relevance of the higher education provided did not arise.
During the 1980's when cracks began to appear in the educational system, owing to some of the factors identified earlier, such as increasing student members, dwindling public support for higher education, inadequate number of qualified teachers and academic and physical infrastructure and increasing graduate unemployment, questions began to be asked not only about the quality of higher education but also about its relevance.

It was felt that graduates trained by the institutions, including those in some of the professions meant for industry, did not have strong business and industry skills to meet the demands of the labour market. This mismatch between skills provided by the HEIs and those needed by industry has been the subject of complaint by many industrial establishments (The Skills Gaps Debate).

The lamentations of industry include the fact that there are many skills gaps in the performance of graduates from our higher education institutions. Specific examples of the required skills often cited include, ICT, diagnostic analytical and problem solving, logic, communication, proposal writing, strategic management, presentation and team building.

The absence of these skills in the graduates has generated an interesting debate as to what the core functions of the training institutions are. Part of the response by the training institutions is that owing to inadequate funding they do not have the tools, equipment, workshops and laboratories to facilitate practical training. Industry is also generally ill-equipped. Those reasonably well resourced are also unwilling to take on students for attachment and practical training.

The view of industry is that the students are not well prepared for practical training; they are also too many to cope with. Again, the skills gap between what exists and what is required is so wide that rather than take on graduates from the institutions to train, they would rather take on non-graduates and train them from the scratch. Some well resourced industries have either sought to recruit graduates from the global market or sought to found their training institutions, a phenomenon termed corporatization of training institutions. An example in Ghana is the Ghana Telecom University.

This debate leads to the question as to what kind of graduates the institutions should produce. We have argued in an earlier section of this paper for a variety of well- differentiated institutions, each type playing a unique role in developing the required human capital for national development.

Many agree that education of any kind must aim, among others at developing appropriate skills for employment Training in character development, a sense of social cohesion, belongingness and the urge to live together in harmony with others and the willingness to continue to learn are some other missions of education. While the universities would like to generate and disseminate new knowledge and train the mind, there is hardly any of them which can do this effectively without collaboration with business and industry. Graduates of our universities live and work in society and therefore need to be prepared to fit into society. This is why collaboration and partnership with industry and civil society are essential. Many forms of collaboration exist. Even in the purely traditional research universities there are opportunities for joint research with industry. What the universities should seek to do is to organize themselves to tap into the latest developments and know-how in business and industry to bridge the gap between the two worlds. Universities and the training institutions must take the initiative.

In the purely technical and vocational institutions such as polytechnics, technical and agricultural colleges, the need for such partnerships is a necessity, indeed, mandatory. These institutions have been mandated to train students in career-oriented professions. What the students learn and what they do must prepare them to meet the demands of the labour market. Collaboration must be formalized and institutionalized, supported by appropriate memoranda of agreements. Government support in the form of a regulatory framework is essential to the sustenance of such agreements. Besides industry, civil society organizations have become vital partners in the governance of African countries and now many of them have observer status at continental and sub-continental bodies such as African Union and ECOWAS. They have voice on the continent and have become critical partners in development. Industry and civil society need to have a say in school curricula, provision of industrial skills and appropriate feedback on graduate performance at the work place.

These developments are not only occurring at the national level but they also feature at the international and global levels. Higher education is now an integral part of the globalisation process and, therefore, is no longer to be viewed only in a national or parochial context. It is in this context that international cooperation or collaboration in Higher Education should be viewed. International cooperation in HE has become part of the more general phenomenon called 'internationalisation of higher education'.

The International Dimension of Higher Education in Nigeria: International Cooperation/Global Networking

Since medieval times, students have always travelled outside their countries to seek knowledge. Universities in medieval Europe, such as Paris and Bologna, received students from all over the continent as well as from the British Isles. In Africa, the early centres of higher learning at Fez in Morocco, Cairo in Egypt and Timbuctoo in Mali attracted students from all over the continent of Africa. Furthermore, the universities established by the colonial administrations all over Africa, such as the Universities of Ghana, Ibadan, Makerere and Khartoum were initially colleges of UK universities, in particular the University of London, which controlled their academic standards including entry requirements, course content, examinations and degrees awarded. Even after gaining full autonomy, these African universities maintained links with their mentors through external examiner system, faculty development and, in some cases, research collaboration.

Also, since the early 1960s African universities have cooperated under the auspices of the Association of African Universities which has encouraged linkages through sponsorship of scholars for various activities. More recently, the African and Malagasy Council for Higher Education (CAMES) is vigorously promoting academic cooperation among francophone countries and in East Africa the Inter-University Council is working on harmonization of qualification issued by universities in the region.

Internationalisation of higher education means different things to different people and several definitions have been proffered by various authors over the years (Knight, 1997, 2005; Quiang, 2003; Altbach & Knight, 2007). Whatever the definition, internationalisation involves collaboration at the levels of national systems, institutions and individuals.

What is also clear is that, it is a process that is multi-dimensional or multifaceted and may involve students, faculty, the institutions or all of these and the activities that take place between them (Knight, 2003). Such activities include:
- Study abroad by students
- Faculty collaboration in research and collaboration
- Attraction of foreign faculty to campus
- Signing of MOUs between foreign partners
- Establishment of satellite campuses or franchise private providers
- Curriculum containing international issues
- Re-evaluation of instructional delivery by an institution
- Harmonisation of credentials

The policies and practices may be at the levels of national systems, institutions or individuals.

What motivates internationalisation in Higher Education? What is the rationale?

According to Knight and de Wit (1997) rationales or motivations of countries encouraging internationalisation of their higher education systems may be considered in political, economic, academic and socio-cultural terms.

The political rationale involves issues relating to a country's position and role in the world and for which internationalisation may be used as a foreign policy tool. Such countries may

offer scholarships to foreign students who show promise as future leaders and may prove useful in later years in the diplomatic and business spheres.

Economically, the reasons for internationalisation of higher education may result in skilled human resource development required for international competitiveness of a country, or for direct benefits in the form of institutional income or net economic effect of foreign students. For example, Australia and Canada have made it easier for international students to do post-study work. In Australia (with 600,000 international students), following graduation in any field of study students can work for two to four years and Canada, with 240,000 foreign students in 2011 offers flexible work permits for students. Furthermore, for Canada, these students contributed $6.5 billion to the economy (Horden, 2012).

Some countries are establishing *education hubs,* which are designated regions intended to attract foreign investment, retain local students, build a regional reputation by providing access to high-quality education and training for both international and domestic students, and create a knowledge-based economy. They may include different combinations of domestic and international institutions, branch campuses and foreign partners. Examples are the Dubai Knowledge Village (International Academic City) launched in 2003 and has 20 international universities – including Cambridge, Phoenix, Exeter, Cornell; Bahrain in 2007; Botswana; Kualar Lumpur.

The academic rationale covers the well-known functions of higher education in that internationalisation will result in achieving international academic standards, which is value added to a country's education system.

Socio-cultural reasons deal with a country's own language and culture, as well as the importance of understanding other languages and cultures.

Higher education institutions also have their individual rationales for embarking on internationalization. Three studies on internationalisation of higher education conducted by the International Association of Universities (IAU) during the past decade (Knight, 2003, 2005; IAU, 2010) all indicated that the majority of institutions place high premium on internationalisation. In the latest of the surveys, with 745 institutions and 20 national associations in 115 countries responding (IAU, 2010), the top five reasons given for internationalisation are:
- Improve student preparedness;
- Internationalise the curriculum;
- Enhance the international profile of the institutions;
- Strengthen research and knowledge production;
- Diversify faculty and staff.

In furtherance of the above, institutions may adopt a variety of approaches – activity, competency, ethos and process (Qiang, 2003), which are not mutually exclusive.

The *activity approach* – this approach promotes activities such as faculty and student exchanges, technical assistance and curriculum development, which are usually distinct programmes in themselves.

The *competency approach* – this emphasises the development of skills, knowledge, attitudes and values in students, faculty and staff, for them to become not only internationally knowledgeable but also inter-culturally skilled.

The *ethos approach* places emphasis on an institutional climate or culture that values and supports international or intercultural perspectives or initiatives.

The *process approach* to internationalisation involves the integration of an international or intercultural dimension into teaching, research and service through a combination of a wide range of activities, policies and procedures.

Internationalisation, though of much interest to Nigerian universities, has yet to see concrete actions. The state of internationalisation in the Nigerian higher education system is described by Jibril and Obaje (2008). The indications are that, except for a few initiatives such as vice-chancellors' study visits, scholarships for students from deprived African countries, involvement of some donor agencies in the provision of some infrastructure and some bilateral agreements for faculty exchange and joint research, most institutions do not have any well-articulated internationalisation policy.

An internationalisation policy at institutional level must be part of the institution's strategic plan. The institution must decide which approach(s) it wishes to adopt and design suitable activities for action. Easy options to consider are the creation of student-exchange programmes and the participation in international joint ventures and partnerships.

CONCLUSION

The future of Higher Education in Nigeria is bright. The country's Higher Educational Institutions have a major role to play in the socio-economic transformation of the country. They however need to be repositioned and resourced to enable them meet expectations of society and the challenges of the 21st century.

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