

The Reality of University Education and Implications for Sustainable National Development in Nigeria

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Protocol:

Let me begin by appreciating the Faculty of Education and particularly the Conference Organizing Committee of 2023 edition in University of Port Harcourt for the honour of being nominated to share my thoughts before this distinguished audience on a paper titled; The Reality of University Education and implications of Sustainable national Development in Nigeria. This theme is apt and topical especially as it is suggestive of attempt to identify solutions to frontal challenges as reflective in the global questions raised therein. It is therefore not out of place to state the obvious and assert that the perceived shortcomings on the issues under focus are indicative that they have fallen short of global expectations of some soughts.

Introduction

Nigeria as a nation has all it takes be a super and great nation with organized structures that will attract the sea of eyes. The rich and abundant human and material resources are evident in this direction which in most cases understated. She cannot therefore afford to be a by-stander or an on-looker in the cult of globalized and modern contemporary civilizations. University Education is seen as a veritable agent and most potent catalyst and instrument per excellence for the nations that desired sustainable national development.

Rationale

Since the universities is at the heart of sustainable development agenda that will response positively to either global, national or local questions that bothers on development. It is my thoughts therefore, to concentrate my fire on whether the universities in Nigeria have proven their onus in this direction, for what they exist for, what they are doing and what they ought to be doing in order to guaranteed national development that is sustainable, which eventually will culminate to attainment, satisfaction and provide positive responses to global or universal questions, that are begging for answers in today's conference. According to Muktah Diop (2014) who is a World Bank Vice President for Africa Region Higher Education, Forum for Higher Education Science and Technology, supporting my earlier position, he maintains that 'higher education is now in front and the center of the development debate with good reasons'. The question now is; Are Nigerian Universities profound in sustainable

development agenda? Some scholars may tend to say yes, let me speak my mind by taking a contrary to a mid-way position and state unequivocally that

The major threat to university education in Nigeria is its very poor sustainable development responsiveness plans that are traceable to internal leadership crises which are exacerbated by emerging threats that tend to weaken institutions of learning and their sparks for development initiatives and priorities.

Today, therefore calls for a deep sober reflection on the slow impact of the reality of University education on sustainable development in Nigeria and even up to sub Saharan Africa with its accompanied threats. This paper examines further; the concepts of university education; the goals of Universities, its strategies for promoting learning; the concept of sustainable development; how Universities stimulate sustainable development; failures and threats to sustainable development and management necessities thereof, as well as the international picture of the impact on Africa higher education and development agenda.

What is a University?

University as a concept is derived from the latin Universitas magistrorum et scholarium which is interpreted as “Community of teachers and scholars”. These centers of learning had existed in Africa and Asia. What we have today as university is rooted in the European medieval University in Italy. Universities evolved from Christian cathedral schools during the High Middle Ages for the clergy. In Nigeria as in other countries it is the apex tertiary education and research institution with the mandate to award academic degrees in accredited academic disciplines at both undergraduate and postgraduate levels rightly exercising

University Education

This is formal type of Education or learning unique and complex that is usually provided in universities after secondary or other tertiary education. This includes distance correspondence learning provided by the Open University. The Federal Government of Nigeria places heavy premium on university education for the actualization of its desired development ceteris paribus. Article 59 and 60 of the National Policy on Education FRN (2004) spelt out the mandates of universities through effectively planned actualization strategies.

The Goals of University Education

A University is a centre for excellence, ivory tower and a storehouse knowledge and research. These features are catholic across time and space. According to article 59 in FRN (2004) the following are the goals of tertiary particularly university education:

- a. Contribute to national development through high level relevant training;
- b. Develop and inculcate proper values for the survival of the individual
- c. Develop the intellectual capacity of individuals to understand and appreciate their local and external environment;
- d. Acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society;
- e. Promote and encourage scholarship and community service;
- f. Forge and cement national unity; and

- g. Promote national and international understanding and interaction
- h. By the time universities achieve these goals they would no doubt contributed significantly to development and even its sustainability.

Delivery of University Education

The delivery of university education in Nigeria cannot be divorced from the Millennium Development Goals (MDGs) aimed at alleviating extreme poverty to enhance social welfare of majority of world population. The Obasanjo administration (1999-2007) derived its National Economic and Empowerment Strategy (NEEDS) from the Millenium Development Goals MDGs and was aimed at massively improving the quality of life of Nigerians to allow Nigeria to feed herself, provide first class medical health care and strengthen other institutions within our growth parameters. This was designed to primarily attack poverty, a social problem that seemed to be worsening among both rural and urban poor and other vulnerable groups. The delivery of NEEDS with respect to poverty reduction programmes has not been able to impact the people because of the issues of administrative red-tapism, lack of political will and corruption. (Nwadiani 2018).

Delivery of the Goals of University Education

Universities in Nigeria shall as be noted in article 60 of the National Policy on Education pursue their education goals through:

- a. Teaching
- b. Research and development
- c. Virile staff development programmes;
- d. Generation and dissemination of knowledge;
- e. A variety of modes of programmes including full-time; part-time, block release, day-release, sandwich etc.
- f. Access to training funds such as those provided by Industrial Training fund (ITF) and Tertiary Education Training Fund (TETFUND)
- g. Students Industrial Work Experience Scheme (SIWES)
- h. Maintenance of minimum education standards through appropriate agencies
- i. Inter-institutional Co-operation;
- j. Dedicated services to the community through extra-mural and extension services.

Goal Driven Strategies for University Education

For universities to be able to meet these goals they are given the traditional areas of academic freedom to do the following;

- a. Select their students, except where the law prescribes otherwise. As a way of ensuring autonomy, tertiary institutions are mandated to select their students. This is not fully done because of interference by the authorities that exert control over the institutions. The entrance and matriculation examinations for admission into universities are organized by joint Admission and Matriculation Board (JAMB). NUC, NBTE and NCCE determine the carrying capacity of each respective institution.

- b. However, the institutions organize post UTME screening examination to ensure quality of students. This has continued to generate resistance from the public even lawmakers who believe that students are over subjected to many examinations. For the 2012/2013 academic session, no tertiary institution of learning was allowed to select and admit their part-time students as a result of government directive. It must be noted that some tertiary institutions including universities have abused part-time programmes in Nigeria.
- c. Appoint their staff. Universities like other higher education institution advertise and appoint their staff based on government policy in terms of structure and spatial spread to reflect federal or state character. Most institutions tend to promote ethnicity and mediocrity in this regard with people from institution's very immediate catchment area at an undue advantage. Foreign staffs are no longer employed in our universities. What we have now are anointed locals and products of academic inbreeding The Chief Executive position and Principal Officers have become highly political. We now have friends of the the office of vice chancellor not friend of the occupants of the office. People employ all forms of powers and influence towards these appointments. Universities are becoming growing centres of partisan politics with dependent loyalties. Thus, the danger is that the independence of mind of scholars and the universal nature of universities are fast disappearing in the area of appointment of staff. This is why the best minds are longer "lucky" to be hired. Yet the universities are expected to drive sustainable development.
- d. Teach and select areas of research. Universities are expected to be centres of excellence in teaching, knowledge generation and beneficial research. These functions are limited due to environmental, policy variables and underfunding of university education in Nigeria. In some institutions, the quality of those who are teaching is low.
- e. Determine the content of course. This mandate is not fully achieved because the respective governmental agencies in control of the institutions to a large extent influence what is to be taught by way of accreditation of programmes and courses. They establish the minimum standard for the courses thereby not giving the institutions and their teachers enough academic freedom. This is a major dilemma. Today there is confusion and overbearing influence of transition from BMAS to CCMAS for 70% by NUC and 30% by respective universities, the reverse ought to be the case because setting up academic curricula standard ought to be the responsibilities of the university senate. Thus far it does appear that our universities are seriously experiencing expectation reality gap in driving the sustainable development mandate. Consequently, the faith in them is fast declining.

Meaning of Development

Development is vulnerable to pluralistic of meanings; it is in the first instance moving from one level to total advancement driven be selfless men of goodwill without compromise. It is a qualitative improvement within the macro economic variables. It is beyond adequacy of functional infrastructure, viable GNP and capital accumulation. It is more than quantitative increase within the growth parameters of an economy. Seer (1977) defined development from the angle of human well-being.

From him, development does not only means capital accumulation and economic growth but also the condition in which people in a country have adequate food and job and income inequality among them is greatly reduced bring about sustainable changes, it touches on quality of life as social justice, equality for all citizens participating fully in the democratic process.

Rodney (1972) conceptualized development: “at the level of individual”. It implies increased skill and capacity, greater freedom, self-discipline, responsibility and material well-being”. In defining national development, we are raising questions concerning (1) Hunger (food security) (2) Health and wellness (3) unemployment (4) Illiteracy and quality of schooling (5) Income distribution (6) Justice (7) Political Institutional leadership (8) physical and social infrastructure (9) poverty (10) physical security (11) spirituality and (12) cherished societal values. When these concerns are adequately met resulting in the improvement and advancement of the standard (quality) of living progressively of the people with positive values in an environment devoid of insecurity and threats to life, that nations is said to be developed. The National Development Plans (NDP) experimentally and holistically implemented as in the case of Nigeria.

The first of such plans was put in place between 1962 and 1968 focusing on health, education and employment sectors’ development. This plan like others that followed including some development strategies (SAP, NEEDS Vision 2020 etc.) failed to achieve their objective. Why did they fail? Be that as it may, what is desired as never before is not just national development but that which is sustainable. Sustainable development for the first time was defined by Brundtland (1987) as “meeting the needs of present generation without compromising the needs of future generations”. It “keeps going” almost everlasting and contributing to the quality of life through improvement in natural environment. Natural environments in turn supply utility to individuals, inputs to the economic process and services that support life (Jhingan 2010).

How Universities Stimulate Sustainable Development to Solve Global Questions

Across time and space worldwide as in Nigeria, the central mission of universities is socio-cultural and economic driven responsiveness reflected in actual development that is sustainable.

In fact, their critical role in sustainable development of nations is catalytic. This explains visible massive nation commitment towards universities by way of their priority investments even though at times they are politically motivated in most Less Development Countries (LDC’s) of Africa.

The aspirations of all these LDCs is to attain modernization, materials advancement, industrialization, scientific and technological progress, the emergence of nuclear energy, electronic and biological revolution, new knowledge about men and the universe, urbanization, socio-cultural transformation, mass literacy, vertical and horizontal mobility,

employment opportunities, good health and security in a political system that is stable and devoid of democratic Satanism that is controlled by human vultures.

To actualize universities mandate of stimulating sustainable development requires well trained, skilled workforce, knowledgeable and selfless men and women of goodwill and equity oriented political consciousness in the share and distribution of national resources including both tangible and intangible rewards. The direct and most potent way to realize this is the adoption of a well-planned university education that is knowledge driven so as to produce the needed human resources.

Knowledge Based Strategy

What universally differentiates Universities from other higher education institutions is the excellency of knowledge as Ivory Towers in terms of their quality and volume. The quality of knowledge is sustained by the motivation and retention of tall, fine and robust scholastic minds whose attractions are beyond meat for the table (stomach infrastructure) and other mundane desires. These are men and women of “virtu” and “uomo Universale” with the spirit of unpolluted integrity. The universities hitherto old-fashioned knowledge production function paradigm is that of different permutation, sole-element and utilization differentiation. These are (1) teaching which is knowledge transfer (2) research for knowledge generation and (3) Community service for knowledge share with the relevant public or entire society. These functions are carried out as official activities to justify individual take home pay on one hand and on the other hand requirement for career progress so as not to perish.

Experience and observations of things on ground by way of matters arising seem to show that the knowledge generated therefrom universities have limited positive impact on sustainable development in Nigeria. Largely the volumes of knowledge being generated are merely stored in our universities departmental and library shelves unshared and unutilized. Knowledge is expected to be utilized in generatling comfort and good life for society as dividends from universities and their outreach activities.

According to Harbison (1993), human resource constitutes the ultimate basis for the wealth of nations.

Capital and natural resource are passive factors of production, Human resources are active agents of production who accumulate capital, exploit natural resources, build social, economic and political organization and carry forward national development; clearly a country which is unable to develop the skills and knowledge of its people, utilize them effectively in the national economy will be unable to develop anything else,

Human resources planning emphasizes the creation or development of institution for the training and mobilization of a pool of human capital for national development. Human resources planning is crucial in the sense that it can assist the government in population planning and control as well as keep check the number of human beings so that they are enough to carry out development assignments in the various sectors of the economy. Capacity is the essential lubricant of national development even more important than finance. The UN

Development Programme has defined “capacity” as “the ability of individuals, institutions and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner”. The terms “capacity building” or “capacity development” describe the task of establishing human and institution capacity. Whatever the terminology, capital building remains one of the most challenging functions of global development and this cannot be achieved without proper human resources planning. Human resources’ development is crucial to capacity of any nation. The process used the formal, non-formal as well as the informal means of education in the process of this development.

Planning, Values and Attitudes Education

There are some values and acceptable attitude among Nigerians across cultures. Some of these cherished values are honesty, probity, good name, equity, holy, fear, hard work, modesty, contentment and integrity. The value and ethical behaviors propel and give meaning to the activities of promoters of sustainable development. They accelerate the intangible dimensions of national development. Unfortunately, these cherished values are not only inverted but are being eroded very fast in contemporary Nigeria. Unacceptable and unethical behaviors have become prevalent with immeasurable wickedness, selfishness, impunity and satanic freedom.

Threats to Sustainable Development in Nigeria

Today people who love and speak the truth will tell you that Nigeria is failed state in the midst of resources and large number of universities that should have been able to create a heaven-like-country. University education and the institutions are not able to play adequately their role of sustainable development. There are massive evidences to show that university education is not able to promote or sustain national development. Some of these negative development signs are legion and speaking against the land and its people. Pains, frustrations, toxic hopelessness and fear have enveloped the nation.

For example:

1. There is a serious decline in the quality of life and standard of living among Nigerians except politicians.
2. Rising phenomenon of graduate unemployment making university education an investment in frustration.
3. Many industries that hitherto flourished have closed down for obvious reasons.
4. Incidence of sordid poverty with 40% of the population living below two dollars (\$2) per day thereby eliminating the hitherto middle class in Nigeria.
5. Food insecurity because of subsistence agriculture and the menace of cattle herdsmen.
6. Rural migration and neglect.
7. Poor attitude of most Nigerians to life and inverted values.
8. Insecurity, violence, militancy, agitations, communal clashes, kidnapping and ritual murders.

Consequently, the hostile environment has accounted for the unwillingness of both foreign and local investors to do business in Nigeria. The little development gained over the years remained unsustainable. Worrisome to many stakeholders are the fast-growing manifestations of unintended and undesirable decay or rots in Nigerian universities. These decay elements in the system continue to pose as challenges to their sustainable development mandate. These are very serious threats.

In commendation, the country's huge investment in and commitment to university education have yielded desirable results beyond mere expansion. Products from Nigerian universities including other nationals are scattered across the world and are reputed for their quality training, and job performance. This notwithstanding, there exist some rots in the nation's university education tradition threatening the huge achievements of yesteryears. Some internal observers and concerned international fellows are worried about the fast decay of the sector and the harmful effect of the threats.

Firstly, all university education resources, except perhaps students in some regions, are in short supply. Lecture halls, classrooms, offices and students' residential accommodation are seriously inadequate. First timers and non-final year students are usually faced with acute accommodation problems. While some squat with their friends, making the rooms overcrowded and unhealthy, others rent private, off-campus residential places which are expensive and exploitative. The phenomenon of students squatting is turning the campuses into poultry-like houses. Ojukwu once described accommodation provided in Nigerian Universities as a harem for students adding that the students are in constant running battle with snakes and other reptiles. Aghenta (2001) asserted that learning cannot be in the right quality when the inputs are not in the right order.

The weakest link in the academic production function is the increasing shortage of books and journals either in the institutions' libraries or bookstores. Where they are available, only the children of the rich and top military officers, politicians and contractors can afford them. Most institutions' bookshops have long been closed down because of the devaluation of the naira, scarcity of foreign exchange and mismanagement by their operators.

Research has shown that books and journal shortages in Nigerian Universities, what is in vogue and fast becoming a culture is the use and sale of handouts by lecturers to students at ridiculous prices. It has become a profit-making venture for 'merchant' lecturers. Well, the Senate of some Universities have banned the sale of handouts which have not been very effective. Self-made and 'garri' books are also proliferated (Nwadiani, 2017). Students who fail to purchase these handouts stand the high risk of failing examinations. The general public and well-meaning Nigerians have condemned this development. Are they not the cause of this dilemma as they continue to assassinate education and educators?

Related to this development are all forms of examination misconduct including the sale of examination grades. Because of this ugly development, hard work and scholarship are relegated. The quality of students' grades depends on how much they sinfully offer to those in charge (vendors) either in cash or kind, and sometimes both. Examination malpractice has become sophisticated and widespread in the nation's universities a growing culture of success without work has become institutionalized. The slogan is "let my people go". The relegation of hard work and scholarship sometimes lead to increase in the rate of students carry over

courses, which could lead to extra student-year. Students' extra year constitute wastage in Nigeria universities.

Laboratory facilities are no longer found in Nigerian Universities. Where the facilities and equipment are available, they are obsolete, over-utilized and sometimes vandalized. Many students of science and technology graduate with little or no exposure to experiments and practicals. They are mere certificated science illiterate graduates of alternative to practicals. What they are studying are more of traditional science (Nwadiani, 2002). Apart from laboratory facilities, there is a lack in other required educational facilities in the universities. There is a positive link between students' academic performance and educational facilities (Bloom 1978, Zymelman, 1973, Osahon 1994 and Nwadiani, 2004).

At the heart of the crisis in university education in Nigeria is acute staff shortage. Shortage of academic staff is a perennial problem in the management of higher education in Nigeria. What has worsened the situation is the phenomenon of brain-drain in universities. The wave of out-migration of professionally trained senior academic leaving many universities at best with baby lecturers is a serious threat to both quality of service and overall development of university education. It has become difficult to attract and recruit young academics and retain the old ones. Academic staff in Nigerian Universities are probably the worst remunerated all over the world. They are the least paid in Africa. The basic annual salary of a Nigerian University senior Professor as at 1998 was ₦51,000 (\$630) with a total annual take home pay of about ₦100,000. Although, there is an upward increase as at 2010 to ₦6,020,163 per annum with monthly gross pay of ₦501,680.25; this is still below the Africa average and what is earned by young graduates in the oil and banking sector as at today. With the current exchange rate of N360 per dollar, Nigerian University Professor earns a little above \$1,000 per month. This is why bright graduates are not willing to take the job of a lecturer.

The most serious threat is the menace of secret cults. There is a public alarm as regards secret cult because of the associated dangers that have brought in the reign of terror on our campuses. In the glorious past, the death of one student was an injury to all undergraduates e.g. the killing of Adepoju in 1971 at University of Ibadan. The memorial was celebrated for many years. Today, students openly with joy and impunity in evil kill one another. In short "cultism, rape, arson maiming, wanton destruction has taken over the education world in our dear country" Parents unfortunately take side with their children and wards. Cultism has spilled over to secondary and recently primary institutions. Thirty-six cults are found in Nigerian institutions of higher education. Members of these secret cults are children of rich and well-placed parents because of the financial implications. The feeling in the air is that secret cult membership is becoming a hidden criterion for appointment into some key positions or protection thereafter.

Delay in the release of students' academic results cum transcripts is a threat which has given students and lecturers opportunities to commit social vices (examination malpractice, cultism, sexual harassment etc). In some Universities, discipline has broken down not only among University students but also among their teachers. Many professors can no longer inspire either their junior colleagues or their students. The educators are in dire need of education. In corruption, immorality and debasement of social values, the university is as bankrupt as the wider society. Some university Administrators can no longer maintain law and order. Others

are paralyzed by the loss of moral authority and the fear of assuming responsibility. In the University people of low integrity now tell lies or half-truth speaking with two sides of their mouth (Nwadiani, 2010).

Character and learning, the two criteria formally used for the award of university degree are gradually disappearing. The average Nigerian graduate today gets little of the one or the other from the university. The general fear as Orewa (1999) rightly puts it, is that it must be a nightmare for Nigerians to feel that in the future these students who have a culture of eliminating others will become the nation's political and community leaders and top managers in our private sector. They will certainly be involved in hiring assassins to eliminate political opponents and those who are on their way to their ascension of the ladder of leadership.

The fast-declining quality of University education in contemporary Nigeria is a very serious threat to sustainable development. Knowledge is power! Universities are reputed for the business of knowledge generation through research. Research outcomes enhance education quality and promote sustainable development. It addresses societal problems both on the short and long run. Universities are centres where the best minds gather to ask questions, provide answers to them and theorize for societal development. Developed countries have benefited from Universities' research efforts.

Massive researches are being conducted in Nigerian universities with Nigeria ranking 2nd after South Africa in the publication of over 4,000 research outcomes. Unfortunately, these researchers are purely personal (private) publications aimed at individual's career progression in form of promotion. This is because of the slogan "publish or you perish". They are not cutting-edge researches. Therefore, they are not able to promote sustainable national development with very few patents emanating from Nigerian universities.

In 2017, world ranking of Universities in terms of quality, excellence in teaching, research, innovations and other indices, Nigerian Universities did not fair well at all (see table 2). Apart from the University of Cape Town that ranked 273, University of Ibadan the best in Nigeria ranked 1,335th position followed by Obafemi Awolowo University (1,986th position). This should not surprise anybody because of poor government commitment towards university education, Educators and Researchers. Our dilemma according to Nwadiani (2012) is that most research findings are never utilized for development. They gather dust on the shelves of academic department and university libraries.

Table 2: World Ranking of Universities

| Ranking | University | Country | Presence | Impact | Openness | Excellence |
|---------|--|---------|-------------|-------------|-------------|-------------|
| | | | Rank* | Rank* | Rank* | Rank* |
| 1. | Harvard University | | 1 | 2 | 1 | 1 |
| 2. | Stanford University | | 3 | 3 | 3 | 3 |
| 3. | Massachusetts Institute of Technology | | 2 | 1 | 6 | 11 |
| 4. | University of California Berkeley | | 17 | 4 | 4 | 13 |
| 5. | University of Michigan | | | 8 | 7 | 7 |
| 6. | University of Washington | | | 33 | 6 | 25 |
| 7. | Cornell University | | | 4 | 5 | 35 |
| 8. | University of Oxford | | 10 | 16 | 10 | 5 |
| 9. | Columbia University New York | | 31 | | 8 | 12 |
| 10. | (2) John Hopkins University | | 44 | 36 | 2 | 2 |
| 11. | University of California Los Angeles UCLA | | 108 | 12 | 19 | 7 |
| 12. | University of Pennsylvania | | 21 | 11 | 49 | 12 |
| 13. | University of Cambridge | | 41 | 17 | 9 | 10 |
| 14. | Yale University | | 47 | 14 | 14 | 20 |
| 15. | University of Wisconsin Madison | | 45 | 13 | 51 | 25 |
| 16. | University of California San Diego | | 67 | 25 | 13 | 15 |
| 17. | University of Texas Austin | | 19 | 10 | 33 | 46 |
| 18. | University of Toronto | | 35 | 37 | 26 | 8 |
| 19. | Duke University | | 114 | 31 | 17 | 18 |
| 20. | University College London | | 93 | 44 | 8 | 9 |
| 21. | University of Illinois Urbana | | 18 | 21 | 34 | 42 |
| 22. | Princeton University | | 58 | 9 | 16 | 76 |
| 23. | University of Chicago | | 50 | 20 | 5 | 56 |
| 24. | (2) Pennsylvania State University | | 236 | 15 | 67 | 38 |
| 25. | New York University | | 80 | 24 | 28 | 40 |
| 26. | University of North Carolina Chapel Hill | | 130 | 26 | 40 | 31 |
| 27. | University of British Columbia | | 47 | 40 | 41 | 24 |
| 28. | (2) California Institute of Technology | | 9 | 43 | 24 | 36 |
| | 1335 University of Ibadan, Ibadan | | 3446 | 1302 | 1612 | 1715 |
| | 1986 Obafemi Awolowo University Ile-Ife | | 1276 | 2542 | 2519 | 2534 |

Source: Times Higher Education Global Ranking (2017).

Inadequate Funding is another critical threat as a result of government's attitude towards investment in University education. This underfunding has multiplayer negative effects on the entire system. University education is both capital and labor intensive which requires big and sustainable budget of multiple sources. Federal Government of Nigeria 2017 budgeted only 50 billion naira was earmarked for capital expenditure in education.

Yale University, the 2nd richest educational institution in the world currently has an endowment that exceeds \$25 billion whose library holds more than 15 million volumes the third largest in the world (DL2017). For example, the Nigerian Universities research percentage share from the statutory allocation is less 05%. This is very insignificant in the course of sustainable national development.

The most graphic threat to University education and the inability to stimulate and sustain national development is unpatriotic, visionless and corruptive leadership. We have very few leaders who are passionate towards the corporate good of the people and are able with integrity to provide the inventive platform for sustainable national development. Sacrificial and transformational leaders are not very common in Nigeria. The President of Uruguay donates 90% of his salary to charitable activities. Magaji (2005) reported that:

When late Julius Nyerere, former president of Tanzania retired as president, he possessed not more than ten jackets and no single personal house. The president has to request for a three bedroom flat from the government of Tanzania for the rest of his life. Meanwhile his vice-president resorted to teaching English language in a community school.

Similarly, it is on records that John Mugul reduced the cause of governance to the admiration and same was applicable to John Kufur of Ghana. Simplicity and modesty may not be popular among many office holders in Nigeria. The lifestyle of even Local Government Councilors and Chairmen is very far from reality. An Australian speaking from experience with some corrupt and unpatriotic Nigerians portrayed Nigeria: "as a people who hold down the horns of their Parent cow for others to milk". The force that will kill or save the university education system in Nigeria is politics. Government control and undue interference in the management of universities, allocation of funds/grants, values and consequently the erosion of autonomy and academic freedom are detrimental and inhibitive to their overall development. This is why universities in Nigeria have become theatres of labour union crises of great frequencies. These dystrophies and threats that have been highlighted regarding Nigerian Universities are clear indications that they are faced with leadership crises. This has affected the performance of their statutory mandates as they appear like failed institutions of learning. To a very large extent, the crises in Nigerian universities can be addressed if those in-charge adopt new transformational and result oriented leadership.

Management imperatives

The imperatives of management and indeed planned leadership is quest for A paradigm shift of thinking outside the box with entrepreneurial transformational and non-dependent loyalty leadership ceteris paribus operating in environments devoid of insecurity will bring about the much-desired sustainable development by Nigeria universities. Ultimately it is expected that in the nearest future Nigerian universities will join the league of World Class Universities with universal flavour. A world class university has the following characteristics as shown in table 3. Zeroed around adequate funding, very high-quality students and staff with both local and international mix and updated facilities.

Table 3: Major Characteristics of a World Class University

1. Has an international reputation for its research.
2. Has an international reputation for its teaching
3. Has a number of research stars and world leaders in their fields
4. Is recognized not only by other world-class universities but also outside
5. The world of higher education.
6. Has a number of world-class departments (that is, not necessarily all)
7. Identifies and builds on its research strengths and has a distinctive reputation and focus (that is, its “lead” subjects).
8. Generates innovative ideas and produces basic and applied research in abundance.
9. Produces groundbreaking research outputs recognized by peers and prizes (for example, Noble Prize winners).
10. Attracts the most able students and produces the best graduates.
11. Runs an efficient government and management system.
12. Can attract and retain the best staff
13. Can recruit staff and students from an international market.
14. Attracts a high proportion of students from overseas
15. Operates within a global market and is international in many activities (for example, research links, students and staff exchanges, and crowd of visitors of international standing.
16. Has a very sound financial base
17. Receives large endowment capital and income
18. Has diversified sources of income (for example, government, private companies sector, research income, and overseas students fees)
19. Provides a high-quality and supportive research and educational environment for both its staff and its students (for example, high-quality buildings and facilities/high-quality campus)
20. Has a first-class management team with strategic vision and implementation plans.
21. Produces graduates who end up in position of influence and/or power (that is, movers and shakers such as prime ministers and presidents).
22. Often has a long history of superior achievement.
23. Makes a big contribution to society and our time.
24. Continually benchmarks with top universities and departments world-wide; and
25. Has the confidence to set its own agenda.

Source: Allen and Lin (2004)

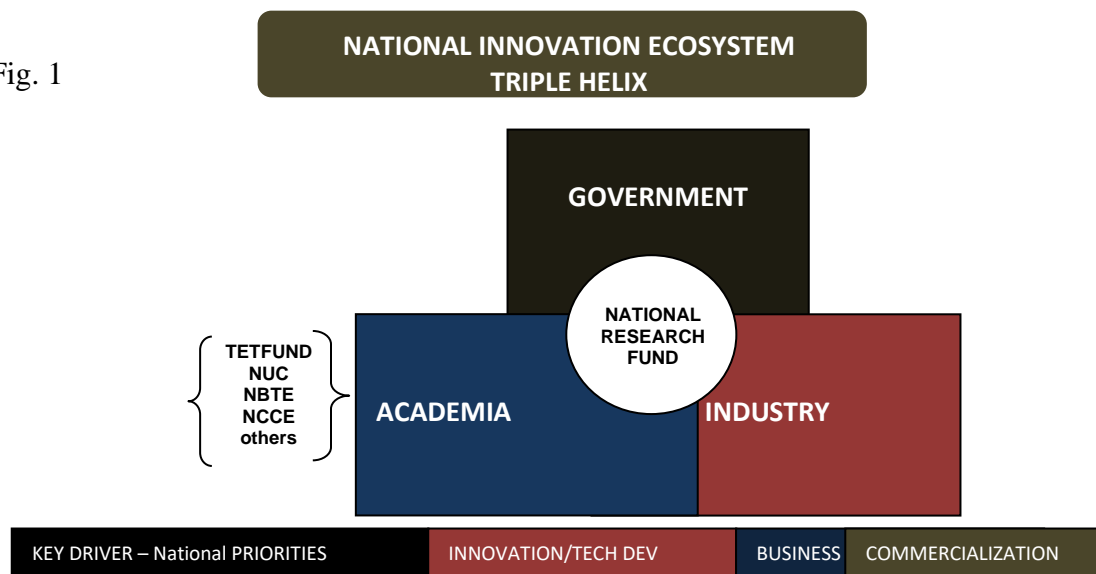
With the unimpressive performance by Nigerian universities in 2017 and previous years' ratings, it will be a miracle for them to become world class institutions. National Universities Commission (NUC) and other regulatory bodies for quality and standard besides Federal, State, governments and private sector must embrace apolitical and international best practices in the management and delivery of university education, the most potent agent for promoting sustainable national development.

University Education and Research Collaboration Initiative And Sustainable Development Agenda

Tedfund Perspectives

In Nigeria, the following have been advocated as models to be adopted to benefit from research and development

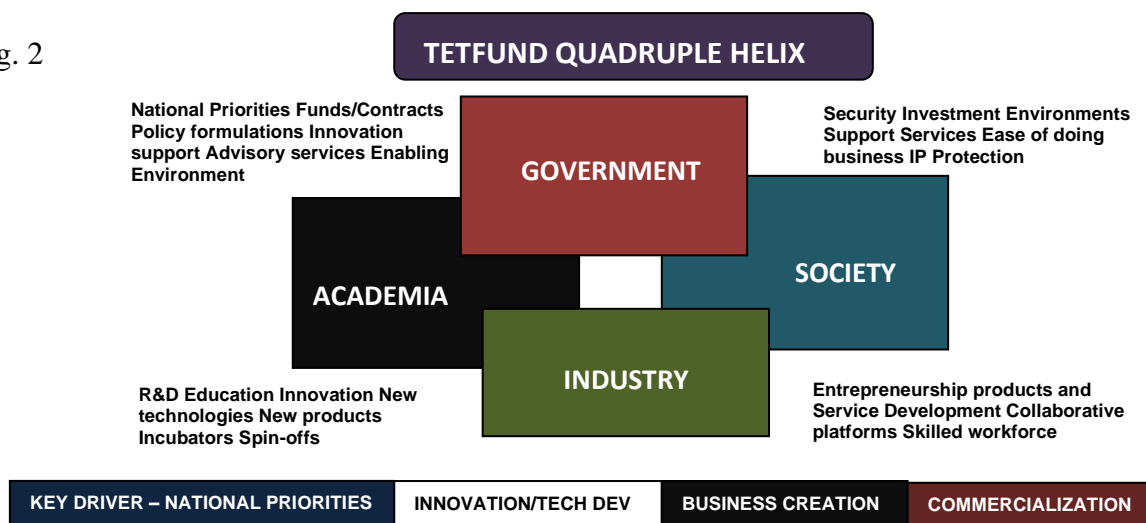
Fig. 1



Source: Ibrahim Katampe, 2020, Central State University Ohio

Triple Helix identifies Government priorities using the key driver of the academia who links up with the industry which ultimately results to innovative inventions that become patentable and eventually yield wealth.

Fig. 2



Source: TETFUND 2020

Table 1: Patent Citations to Academic Output in Different Subject Groupings for Sub-Saharan Africa Regions and Comparator Institutions, 2003–12

| | <i>All subject groupings</i> | <i>Physical sciences and STEM</i> | <i>Agriculture</i> | <i>Health science</i> |
|--------------------------------|------------------------------|-----------------------------------|--------------------|-----------------------|
| East Africa | 205 | 32 | 87 | 90 |
| Southern Africa | 63 | 8 | 26 | 26 |
| West and Central Africa | 351 | 60 | 167 | 151 |
| South Africa | 804 | 315 | 338 | 211 |
| Malaysia | 450 | 256 | 203 | 98 |
| Vietnam | 88 | 17 | 39 | 26 |

Source: LexisNexis Total Patent and Scopus.

Table 2 Patent Citations to Academic Output as Percentage of Total Publication Output in Different Subject Groupings for Sub-Saharan Africa Regions and Comparator Institutions, 2003–12

| | <i>All subject groupings (%)</i> | <i>Physical sciences and STEM (%)</i> | <i>Agriculture (%)</i> | <i>Health science (%)</i> |
|--------------------------------|----------------------------------|---------------------------------------|------------------------|---------------------------|
| East Africa | 0.60 | 0.38 | 0.68 | 0.64 |
| Southern Africa | 0.46 | 0.19 | 0.61 | 0.48 |
| West and Central Africa | 0.56 | 0.33 | 0.82 | 0.61 |
| South Africa | 0.90 | 0.79 | 1.43 | 0.99 |
| Malaysia | 0.50 | 0.42 | 1.33 | 0.77 |
| Vietnam | 0.65 | 0.20 | 1.21 | 1.05 |

Source: LexisNexis Total Patent and Scopus.

Africa has only been cited 32 times compared to 90 and 87 times for research in the Health Sciences and Agriculture, respectively. Southern Africa and West and Central Africa show similar trends. In contrast, for Malaysia, research in the Physical Sciences and STEM has garnered more patent citations (256) over the past decade than research in any other subject grouping. When patent citations are normalized by the regions' total publication outputs, the disparities between the regions get smaller. For example, the ratio of patent citations to all publications was 0.60 percent for East Africa and 0.50 percent for Malaysia. However, even when patent citations are normalized by the regions' publication outputs per subject, there is still a noticeable focus among the Sub-Saharan Africa regions on Agriculture and Health Sciences instead of the Physical Sciences and STEM. The ratio of patent citations to all publications for West and Central Africa was 0.33 percent in the Physical Sciences and STEM versus 0.82 percent in Agriculture and 0.61 percent in the Health Sciences. For Malaysia and Vietnam, the ratio of patent citations to all publications in the Physical Sciences and STEM is quite low (0.42 percent and 0.02 percent) relative to that of other subject areas because of those comparator countries' high levels of output in the Physical

Sciences and STEM, not necessarily because the research conducted by the countries in those subject areas is not particularly helpful to inventors.

Consequences of Inventions and R&D

1. Stanford University

- a. The university's faculty and alumni have founded major technical companies including Google, Hewlett-Packard and Cisco Systems.
- b. A 2012 study by the university estimated that companies formed by Stanford entrepreneurs generated so much revenue that if they formed an independent nation, it would rank among the 10 largest economies in the world.
- c. Endowment \$27.7 billion as at 2019

2. Massachusetts Institute of Technology Mit

- a. MIT has produced: 90 novel laureates, 59 national medal of science winners, 75 MacArthur Fellows, and 29 national medal of technology and innovation winners.
- b. A study conducted by the university suggested that 30,000 such companies were active in 2014, employing 4.6 million people and producing annual revenue of \$ 1.9 trillion.
- c. Endowments \$ 1.38 billion as at 2020.

3. Harvard University

- a. Harvard University is the oldest institution of higher education in the United States.
- b. It has produced 48 Nobel laureates, 32 heads of state and 48 Pulitzer Prize winners. The university's \$39.2 billion endowment is the world's largest.

World Bank and Elsevier Partnership Reports

The World Bank and Elsevier are partnering on this report to examine the research enterprise over a decade from 2003 to 2012 of three different geographies in Sub-Saharan Africa: West and Central Africa (WC), East Africa (EA), Southern Africa (SA). The research performance of these regions is compared to that of South Africa (ZA), Malaysia, and Vietnam; the latter two countries had a comparable research base to the Sub-Saharan Africa regions at the beginning of the period of analysis. The report analyzes all science disciplines, but with a special emphasis on research in the Physical Sciences and Science, Technology, Engineering, and Mathematics (STEM).

The report focuses on research output and citation impact, important indicators of the strength of a region's research enterprise. These indicators are correlated with the region's long-term development and important drivers of economic success. Moreover, research is a key ingredient for quality higher education. Given the shortcomings of reliable statistics on education and research in Africa, we hope the information contained in a bibliometric database will shed light on regional collaboration within Africa, academia– business collaboration, and STEM capacity. More than 50 percent of the population of sub-Saharan Africa is younger than 25 years of age, and every year for the next decade, we expect 11 million youth to enter the job market. This so-called demographic dividend offers a tremendous opportunity for Africa to build a valuable base of human capital that will serve as the engine for the economic transformation of our continent. ... To be more competitive, expand trade, and remove barriers to enter new markets, Africa must expand

knowledge and expertise in science and technology. From increased agricultural productivity to higher energy production, from more efficient and broadly available ICT services to better employability around the extractive industries, building human capital in science and technology is critical to empower Africa to take advantage of its strengths.”

Sub-Saharan Africa Quantity and Quality of its Research Output.

- a. All three Sub-Saharan Africa regions more than doubled their yearly research output from 2003 to 2012.
- b. Sub-Saharan Africa’s share of global research has increased from 0.44 percent to 0.72 percent during the decade examined.
- c. Citations to Sub-Saharan Africa articles comprise a small but growing share of global citations, increasing from 0.06 percent–0.16 percent for each of the regions to 0.12 percent–0.28 percent.

Map .1 Sub-Saharan Africa Regions Analyzed in This Report

Source: Based on Google Geocharts API, <https://developers.google.com/chart/interactive/docs/gallery/geochart?hl=en>.

- i. All regions improved the relative citation impact of their research, with East Africa and Southern Africa raising their impact above the world average between 2003 and 2012.
- ii. The percentages of each of Sub-Saharan Africa region’s total output that are highly cited have grown steadily over time.

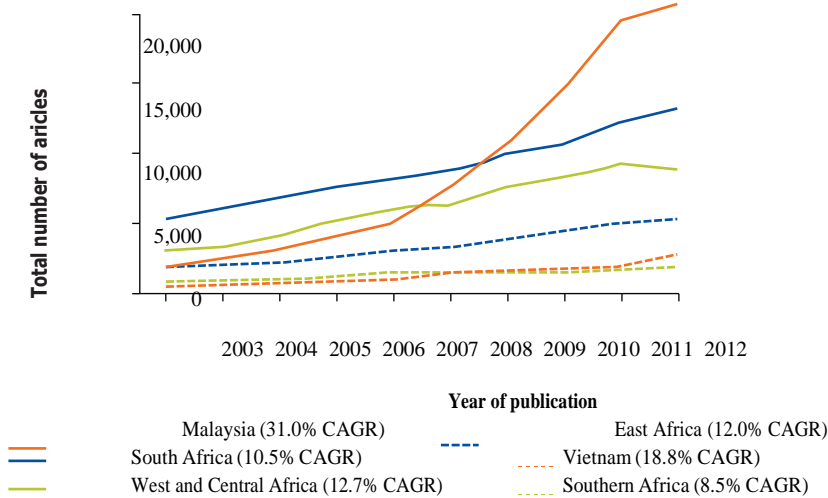
However, Sub-Saharan Africa still accounts for less than 1 percent of the world’s research output, which remains a far cry from its share of global population at 12 percent. In addition, despite the regions’ strong growth, countries with comparable levels of research output in 2003, such as Malaysia and Vietnam, grew even faster over the same period (figure 1).

Education and Health

Sub-Saharan Africa’s output growth has overwhelmingly been driven by advances in Health Sciences research (approximately 4 percent annual growth), which now accounts for 45 percent of all Sub-Saharan Africa research. The progress in the Health Sciences is great and much welcome news for two reasons. First, due to the tremendous health challenges the continent faces, improved Africa-relevant health research and well-trained health workers will have a great impact on health outcomes. Secondly, the impressive improvement in Sub-

Saharan Africa’s research capacity in the Health Sciences demonstrates that persistent support and funding from development partners and governments pays off. Sub-Saharan Africa clearly has a large scientific talent base, but this needs to be trained and nurtured. The World Bank recommends that governments in the region and development partners accelerate support to research and research-based education.

Figure: 1 Overall Number of Articles and Compound Annual Growth Rate for Sub-Saharan Africa Regions and Comparator Countries, 2003–12



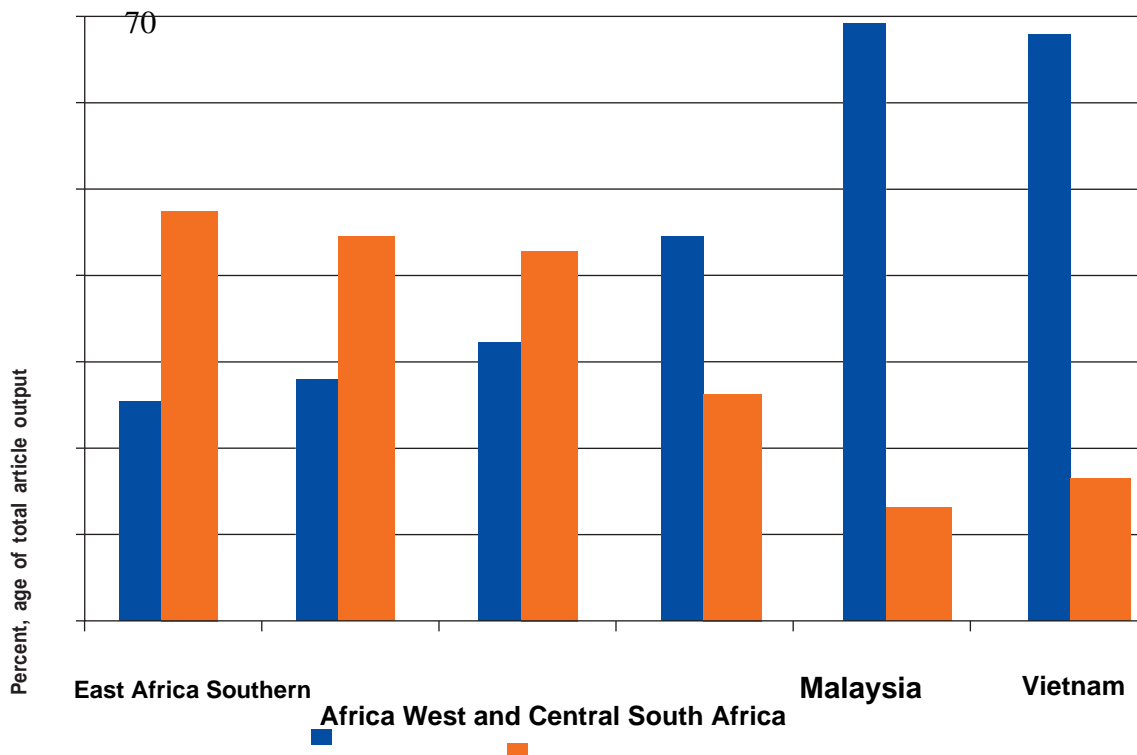
Source: Scopus.

Note: CAGR = compound annual growth rate.

C) Sub-Saharan Africa research output in Science, Technology, Engineering, and Mathematics (STEM) lags behind that of other subject areas significantly. This is evident by the following indicators:

- a. Research in the Physical Sciences and STEM makes up only 29 percent of all research in Sub-Saharan Africa excluding South Africa, as shown in figure.2. In contrast, STEM constitute the largest share of Malaysia and Vietnam's total output (an average of 68 percent), and that share continues to grow.
- b. The share of STEM research in Sub-Saharan Africa has marginally declined by 0.2 percent annually since 2002. In comparison, the share of STEM research has declined 0.1 percent annually in South Africa and grew 2 percent annually in Malaysia and Vietnam.

Figure: 2 Percentage of Total Article Output in the Physical Sciences and STEM Versus the Health Sciences for Sub-Saharan Africa Regions and Comparator Countries, 2012



Source: Scopus.

Physical sciences and STEM

Health sciences

Sub-Saharan Africa, especially East Africa and Southern Africa, relies heavily on international collaboration and visiting faculty for their research output.

A very large share of Sub-Saharan Africa research is a result of international collaboration. As shown in Figure ES.3, in 2012, 79 percent, 70 percent, and 45 percent of all research by Southern Africa, East Africa, and West and Central Africa, respectively, were produced through international collaborations. In contrast, 68 percent, 45 percent, and 32 percent of Vietnam, South Africa, and Malaysia's research output, respectively, were produced through international collaborations.

A large percentage of Sub-Saharan Africa researchers are nonlocal and transitory; that is, they spend less than two years at institutions in Sub-Saharan Africa. In particular, 39 percent and 48 percent of all East and Southern African researchers, respectively, fall into this category.

The high level of international collaboration testifies to the noteworthy effort and interest of academia outside of Africa to support Sub-Saharan. However, Sub-Saharan Africa's high reliance on international collaboration for research is a concern for the World Bank; it signals a lack of internal research capacity and the critical mass to produce international quality research on its own; particularly within STEM. Furthermore, the transitory nature of many researchers may prevent researchers from building relationships with African firms and governments, reducing the economic impact and relevance of research. Analyzing the underlying reasons for lack of capacity goes beyond the scope of the current bibliometric analysis, but we speculate that the following are among the key reasons: shortcomings in the

scale and quality of PhS programs; research funding; research equipment; and faculty time and incentives for research. To increase Sub-Saharan Africa's research capacity, the World Bank encourages stakeholders to consider an initial set of policy recommendations below:

- Continued international collaboration, and scale-up collaboration within STEM
- Scaled up postgraduate education in Africa—possibly through regional collaboration

Continued scholarship funding for studies in Africa, possibly through “sandwich-programs” to ensure international exposure and included funding support to raise the quality of the postgraduate program.

Scopus is an abstract and citation database of peer-reviewed literature, covering over 58 million documents published in over 21,000 journals, book series, and conference proceedings by over 5,000 publishers. Moreover, one of the main advantages of this database is its multilingual and global coverage. Approximately 21 percent of titles in Scopus are published in languages other than English, and the database contains over 400 peer-reviewed titles from publishers based in the Middle East and Africa.²

Education, Environment and Technology

“Forty or fifty years ago, many people thought that simply transferring technologies from industrialized to developing countries would close the technology gap. Now we know that technologies developed in industrialized countries may not be suitable for use in other environments. They may require a particular type of infra- structure to operate. They may need specialized parts or knowledge to mend when they break down.... We now understand that innovative capacity must be built in different ways. Many developing countries can make important progress through simply adapting existing technologies.... In a globalized world, technological development is a global venture. It requires a collective and coordinated effort by government, the private sector, scientists and civil society.” Ban Ki-Moon (2010).

International Collaboration

Intraregional Collaboration Multi-authored research outputs with authors affiliated with more than one institution but both institutions within the same Africa region (for example, University of Nairobi and National University of Rwanda, both in East Africa region). For country comparators, regional collaboration is synonymous with national collaboration

Institutional Collaboration Multi-authored research outputs with all authors affiliated with the same institution.

Single Author: Single-authored research outputs “International” collaboration has been an especially popular topic in past studies of Africa's research performance. Since many studies have analyzed this variable at the country, instead of the intraregional, level (Ménigbêto 2012, 2013).

Centers, Peripheries and Dependency

The professoriate in developing countries is a profession on the periphery, Altbach (1998) with few exceptions research undertaken at major universities in the industrialized countries

set the standard everywhere. Research universities in the industrialized countries are the centers of international knowledge (Chils 1972). These universities produce most of the research and control the key journals. The academic profession in developing countries is peripheral to international centres, the academic system in developing countries are without exception imported from the North America. The European modern universities were imposed by colonial powers. In many cases even the language of the colonial power was retained for instruction and research, the major European languages remained dominant in many developing countries, e.g English and French are still entrenched in Africa. No Africa language is used in Africa universities, English remains important and prefer by student because it is more advantageous in the market place. Language therefore is one element of the peripherality of academic profession in the developing countries.

Universities in the developing countries and the academic communities most function in an unequal world of centre and peripheries. Peripherality does not mean that academic in the developing world cannot undertake creative scientific or intellectual work, but it means that there will seldom stand at the frontier of world science and achieve any control over the main levels of academic power worldwide. Related to peripherality is dependency. Third world academics perceived themselves to be dependent to centres of knowledge and world scientific network. The inequality in world size, access to resources and institutional infrastructures contributes to dependency, in many developing countries, funding for research, participation in International conferences and programmes, access to academic collaboration is often dependent on external support from the North. The decision-making structures are based in the North and reflect the interest of the dominant academic communities, the situation is most extreme for Africa where almost all the research and funding for international linkages comes from external sources, foreign government, Multi-literal agencies, philanthropic foundations etc. African scholars and scientists are dependent on foreign funds and most comply with the particular priorities and programme of the founders for their research (Teferra and Atbach 2002).

In addition, the fact is most academics in their small worlds of their department and their universities spend most of their time teaching and are thus unaffected in their daily life by the trends in international scholarship. The academic system relied on the north to give legitimacy to the academic world, while third world academics strive to keep abreast of world science there are distinct competitive disadvantage, the way in which the world of scientific publishing is organized discourages national and regional scientific communities from emerging in the third world. However, over reliance on the external norms disturbs academic development and introduces unrealistic expectations for the academic profession. Ultimately, these affect the nature and speed of sustainable development in developing world.

World Bank report on education in Sub-saharan Africa

1. Africa is rising in research. Both the quantity and quality of research performance is improving. Capacity in the African higher education and research sector has clearly progressed in the decade from 2003 to 2012.
- Research production has increased by more than 100 percent in Sub-Saharan Africa since 2003.

- Sub-Saharan Africa's share of global research has increased from 0.44 per-cent in 2003 to 0.72 percent in 2012.
 - Between 7.5 percent and 16 percent of the different Sub-Saharan Africa's total publications were among the world's top 10 percent most highly cited articles, but only 5.9 percent–10 percent of those same region's total output in the Physical Sciences and STEM met that threshold.
 - On average for the three Sub-Saharan Africa regions, research in the Health Sciences constituted 45.2 percent of their total output.
2. A large gap in research capacity still exists between Sub-Saharan Africa and the rest of the world.
 - Sub-Saharan Africa's research output remains less than 1 percent of the world, while its share of the population is 12 percent.
 - Research output by comparator countries grew even faster than that of Sub-Saharan Africa. Malaysia, whose article output in 2003 was similar to that of East Africa, grew its output by 31 percent per year. Similarly, Vietnam, whose article output in 2003 was about two-thirds the level of Southern Africa, grew its output by 19 percent per year.
 3. Sub-Saharan Africa research capacity within Science, Technology, Engineering, and Mathematics is underdeveloped and lags significantly. This is evidenced by absolute and comparative shortcomings in the quantity and quality of STEM research.
 - STEM research makes up only 29 percent of all research in Sub-Saharan Africa. In contrast, STEM research constitutes the largest share of each of the comparator countries' total outputs (45 percent for South Africa and an average of 68 percent for Vietnam and Malaysia).

Recommendations

It is strongly believed that university education can promote sustainable national development in Nigeria, as it has been used in other countries' development programmes. Policy options devoid of political insincerity, as listed hereunder, genuine reforms could bring about positive socio-economic and overall changes in Nigeria and eliminating the ills therein. These are:

1. Realistic planning, to balance the supply and expansion of universities, polytechnics and colleges of education proportionately, to set up the demand for, value and image of non-university institutions.
2. Updating and restructuring the curricula to meet the demands of sustainable development that is relevant and acceptable.
3. Diversification of sustainable funding sources, including the encouragement of private participation in a context of strong political will, particularly by governments (state and federal).
4. Proper utilization of all university education resources, applying the best practices in this era of serious competition among all other sectors. All sources of waste must be blocked.
5. A shift towards a problem-based model of knowledge creation different from the traditional cum classical discipline-oriented approach.

However, to make optimum contribution to national development and transformation, universities and other tertiary educational institutions are expected to:

1. Intensify and diversify their programmes to develop high level manpower within the context of socio-economic needs of Nigeria.
 2. Ensure that course contents offered should reflect our national social requirements; and
 3. That students should be made to take general studies course such as history of ideas; sociology of knowledge valuable education and nationalism to engender socio-community spirit and patriotism.
- Mass mobilization and value re-orientation among students, to emphasize the virtues of hard work, morality, integrity, self-discipline, patriotism, selfless service and inter group relations in a plural society like Nigeria.

University education stands at the heart of a nation's quest for sustainable development. Nigerians and indeed all stakeholders must co-operate and partner with government to evolve a viable and hopeful university education tradition that is development-driven genuinely and entrepreneurially driven on assessed needs of the people. All members of Nigerian universities' communities – teachers, students and relevant others must serve with transformation spirit and integrity as “wuomo” universale” men of virtue and proactive menials. At the same time, we all must be torch bearers of our nation Nigeria and the protectors of the flames of development ignited by past men of goodwill, should we in our urgency endanger its brightness your guess could as good as mine. Universities in Nigeria, their members, leaders and their students must join hands with the people of Nigeria in the struggle to rebuild and sustain our national development quest that was yester-years the pride and giant of Africa. Nigeria will rise again!

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