

Identifying the Mitochondria in the Cell of Tertiary Education in Nigeria: The Tortuous Journey to Cape Town and Cairo.

By

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Definition of Tertiary Education

A non-professional definition of tertiary education is education at all levels that are beyond the secondary level. Thus, schools that operate as Monotechnics, Polytechnics, Colleges of Education, University Colleges and Universities are tertiary institutions which offer Diploma and/or degree certificates. The focus of this discourse is the university, for the obvious reason that this is the only type of tertiary institution that I have been exposed to in almost four decades.

The Concept of University

Many dictionaries define the university as “an institution of higher education”. There are various other meanings from different cultures, all of which point to the fact that a university, simply put, is a citadel of learning. In Yoruba *Ifa corpus* for example, I am told that university is spelt as ‘*ifafiti*’ meaning ‘the place where the *Ifa* divinity recognises as the seat of knowledge.

The word *university* is derived from the Latin phrase: *universitas magistrorum et scholarium*, whose English meaning is "community of teachers and scholars". The first university in the world, going by “an educational institution that satisfied the definition of a university at the time of its founding”, is the University of Bologna in Italy with a traditional founding date of 1088. [Stopped Powerpoint here.](#)

There are altogether 124 universities in Nigeria (37 Federal; 37 State; 50 Private). A summary of the objectives of these universities in Nigeria as stated in the Statutes of many of the universities which I have read are to:

- provide facilities for learning
- give instruction and training in a variety of branches of knowledge
- promote by research and other means the advancement of knowledge and its practical application to social, cultural, economic, scientific and technological problems
- stimulate, through teaching and research, interest in and appreciation of African culture and heritage;
- enable students obtain the advantage of a liberal education
- undertake any other activities appropriate for a university.

This last item of my summary (i.e. to undertake any other activities appropriate for a university) has been elusive in many Nigerian universities today due to its vagueness and potential to encourage complacency.

Why Mitochondria?

The mitochondrion is one of the membrane-bound organelles present inside the cell of all living things. Other sub cellular organelles include but are not limited to the nucleolus, Ribosome, Endoplasmic Reticulum, Golgi body and Vacuoles. Of all these organelles, only the mitochondrion has been described as the powerhouse of the cell. As human beings, we need energy to go about our normal lives. A sedentary male of 70kg requires about 8,400 kJ (2000 kcal) for a day's worth of activity (Berg *et al*, 2007). To provide this energy requires 83 kg of adenosine tri phosphate (ATP), the universal currency of energy in living organisms. However, human beings possess only 0.25 kg (one-quarter of a kg) of ATP. The disparity between the amount of ATP that we have and the amount that we require is solved by processes taking place in the mitochondria called oxidative phosphorylation. Indeed, mitochondrion is the power house of the cell, the tissue, the organs and the whole organism!

If the cell were a university, then what is that component of the university that can be seen as its mitochondrion? Organelles of the cell called university include: research equipment, the books in the library, unlimited access to The Internet, quality of staff, number of students academic culture, level of attention paid to staff and students' welfare, leadership or administrative style, aesthetics and the environment, strategic plan, etc. Each of these "organelles" are inextricably interwoven in such a way that deficiency in one could affect the rest either directly or indirectly. So, the question remains unanswered. Which of these "organelles" serves as the "mitochondrion" of the cell called university?

Universal assessment of university status

Since 2001, there had been an ongoing trend of assessment of the effectiveness of universities globally in the "Webometrics" rankings. This is a very recent development when compared with the age of universities in the world. As aforesaid, the first university in the world was established in 1088.

Events of the recent past, in respect of the poor rankings of Nigerian universities in the comity of global universities, have shown that the mitochondrion of the cell called university must be identified based on global criteria. To achieve this, the current definitions of the visions and missions of each university, whether private or public should be succinctly rendered within a global perspective.

The time has come for the 124 universities all over the country to identify a clear vision which should redefine the goals of the University not just in content but in context to include an aggressive pursuit of teaching, learning, research, development and public service at a level that will meet global standards. The core values of Nigerian universities, irrespective of proprietorship, should be to seek excellence in all activities; ensure intellectual freedom; respect and value diversity of opinion and freedom of expression; operate on a high level of integrity and make truth and honesty the watchword.

A former Executive Secretary of the Nigerian Universities Commission (NUC), Prof. Peter Okebukola, recently threw a lot of light on global ranking schemes of universities all over the world in a Lecture he delivered at the Annual Conference of Vice-Chancellors of Nigerian Universities (AVNCU) hosted by Covenant University in Ota in June 2011. According to Okebukola, the lay public is unaware of the differences in the rigour of the global ranking schemes of which there are three. The most prestigious is the Academic Ranking of World Universities (ARWU) published by Shanghai Jiatong University in China. Next is the Times Higher Education World University Ranking, while the third, which is probably the most popular is the Webometrics ranking. Recently, a new entrant into this business of ranking universities called **4icu.org** has emerged on the Internet. In his submission, Okebukola listed 36 recommendations and optimistically opined that if they enjoy a favourable climate of implementation by government and the universities within the next ten years, at least two Nigerian universities will be among the top 1000 in the ARWU global ranking, the top 500 in the Times ranking and the top 100 in the Webometrics ranking. The mission of this discourse is not to regurgitate Prof. Okebukola's recommendations not only because of the grandiose lacing with optimism that is based on expected synergy between the efforts of government on the one hand and the universities on the other hand, but because it elicited in me, elements of pessimism which must be known to the public so that those lofty recommendations could achieve more than the desired results.

Nigerian universities in world ranking

It is indeed a matter of concern for me as a university administrator to be faced with the reality that all we can achieve in the next ten years is two Nigerian universities in the top 1000 of the world's best ranking scheme. More disturbing is the fact that many aspiring Vice-Chancellors in recent times promise in their vision statements to make their universities one of the best five or ten in Africa during their five-year tenure. The best university in Nigeria in 2010 came 55th in Africa and 5,484th in the whole world. This university will have to beat more than 5,000 universities in the world to be among the first ten in Africa!

Unfortunately, it is not common around here for a University's Governing Council to give a Vice-Chancellor a red card of poor performance or inability to keep promises before the end of his tenure. In cases where such premature exit exists, the reasons are more political than poor performance. I stand to be corrected. All I am saying is that I identify with Okebukola's optimism on two world class Nigerian universities in the next 10 years with a tone of pessimism. Instead of believing *in toto* that two universities will be among the top 1000 in the next ten years, I had rather suggest ways by which university administrators and proprietors can make efforts to place their universities on the path towards world class status in the next ten years. My target audience is not my colleagues (serving Vice-Chancellors), but potential university administrators who are currently gathering experience and waiting to take over from my generation.

The rankings of the best universities in Nigeria since 2007 are presented in Table 1. This table reveals improvement in global rankings by virtually all the universities listed but a progressive decrease in ranking for some universities on the one hand and an increase in

ranking of some universities on the other hand. It is certain that fluctuations in rankings are closely linked with or determined by the political situation in each of these universities.

Table 1. Webometrics Rankings of Selected Top 100 Universities in Africa (and the whole world) from 2007-2012. Source: (www.webometrics.info)

University	2007	2008	2009	2010	2011	2012
OAU	44 (6,102)** (1 st)*	68 (7,703) (2 nd)	78 (7,942) (3 rd)	61 (5,756) (2 nd)	44 (3,879) (4 th)	49 th (5 th)
UI	65 (6,944) (2 nd)	85 (8,619) (4 th)	81 (8,034) (4 TH)	79 (6,425) (6 TH)	41 (3,499) (1 st)	38 rd (3 rd)
Uniben	79 (7,335) (3 rd)	42 (5,994) (1 ST)	61 (6,602) (1 st)	77 (6,324) (5 TH)	55 (4,554) (6 th)	31 st (1 st)
Unilag	90 (8,012) (4 TH)	83 (8,160) (3 RD)	95 (8,871) (5 TH)	68 (5,936) (4 TH)	46 (3,942) (5 th)	52 th (6 th)
Unilorin	-	-	77 (7,902) (2 ND)	55 (5484) (1 st)	42 (3,753) (2 nd)	63 th (8 th)
Unijos	-	-	-	66 (5882) (3 RD)	67 (5,376) (8 th)	88 th (9 th)
UNAAB					60 (4,833) (7 th)	35 nd (2 nd)
Nsukka					68 (5,396) (9 th)	47 th (4 th)
Covenant					93 (7,169) (10 th)	-

*Rank in Nigeria; ** Rank in the world - not among Top 100 in Africa.

It is in light of the above that I identify four major hurdles to cross by the Nigerian university system to be lifted up to global standards. The hurdles are:

1. **Improving on our Webometrics rankings.**
2. **Lowering of Population to Students' ratio.**
3. **Lowering Staff to Student Ratio (TSR) to the optimum**
4. **Return to Staff Pyramidal Structure**

In a paper I presented to the OAU Alumni in Ekpoma in May this year (2012), I highlighted these hurdles as presented above. While getting this presentation together, I had a hunch that I should ignore the last three so as to adhere strictly to the topic of this discourse. This is because by the time I was through with the first hurdle, I thought the objective of the presentation had been met.

I eventually decided to include the other three hurdles in this presentation because I have realized that crossing the first hurdle alone is not enough. The other three hurdles will inadvertently have to be crossed while trying to cross the first hurdle.

Improving on our Webometrics rankings.

Improving on Webometrics rankings is nothing but sustenance of the academic culture handed over to us by the British in the University of Ibadan in the 1940s and later by successive Nigerian governments after our independence in 1960. There are new generation universities in Nigeria which were established after the so called academic culture had been eroded due to political instability and inadequate funding. Improving on Webometrics rankings is therefore a Herculean task because inherently, we are disadvantaged in respect of ranking criteria. Table 2 below reveals it all.

Table 2. A select few of Webometrics ranking criteria that do not favour Nigeria

Criteria	World Indicators	Queries/Comments
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	How many Nigerian universities satisfy these?
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	How many Nigerian universities satisfy these?
Research Output	Articles published in Nature and Science (Highly cited researchers in 21 broad subject categories)	How many Nigerian Professors have published in Nature? Why Nature?
	Articles in Science Citation Index-expanded and Social Science Citation Index	How many Nigerian researchers patronise on-line Journals?
Size of Institution	Academic performance with respect to the size of an institution – The total scores of the above five indicators divided by the number of full-time equivalent academic staff.	Only first generation universities and maybe a few private universities (Less than 10%) can satisfy these.

Modified from Oluwole (2005).

The consequences of the limitations presented in Table 2 are revealed in Table 3 where it is shown that the highest ranking university in Nigeria in 2010 was number 5,484 in world rank. The second in rank in Nigeria does not have only the first in rank to beat; it has to beat 272 universities in the world before it can beat the first in Nigeria!

A report provided by one organisation called **4icu.org** which was accessed on July 22, 2012 from the website of <http://naijagists.com>, claimed that “...University of Lagos tops the list of universities in Nigeria”. In a press release shortly after these ranking results were announced, the management of University of Lagos said: “*We want to use this opportunity to express our profound thanks and appreciation to all those who worked tirelessly in the past couple of months to make this happen. We are particularly grateful to our staff who readily made their publications available to CITS for hosting on the website.*” What this clearly indicates is that

this university has confirmed that increasing the quantum of information on their website earned them this enviable position.

Table 3. Top 16 universities in Nigeria in 2010.

	WORLD RANK	UNIVERSITY	SIZE	VISIBILITY	RICH FILES	SCHOLAR
1.	5484	University of Durba	6,312	10,550	3,620	1,045
2.	5756	Obafemi Awolowo University	5,455	7,028	5,486	4,704
3.	5882	University of Jos	7,260	9,184	5,743	1,588
4.	5936	University of Lagos	5,138	9,158	6,677	2,294
5.	6324	University of Benin	5,266	4,279	15,378	9,063
6.	6425	University of Ibadan	6,259	4,977	8,495	10,216
7.	7170	University of Nigeria Nsukka	4,055	10,766	5,781	4,305
8.	8721	Ahmadu Bello University	6,681	10,458	11,028	5,016
9.	8833	National Open University of Nigeria	9,143	11,440	7,558	3,548
10.	9320	Covenant University	7,839	11,257	6,735	6,561
11.	9542	Pan-African University	8,726	8,616	13,097	10,216
12.	9666	University of Agriculture Abeokuta	5,776	11,193	10,465	8,258
13.	9868	University of Port Harcourt	7,851	10,319	12,187	7,977
14.	11699	Babcock University	10,380	13,052	9,480	6,988
15.	11879	Federal University of Technology Akure	10,971	11,660	12,474	10,216
16.	11879	Lagos State University	10,519	12,333	9,537	10,216

Source: Webometrics (2010)

Not among top 100 in Africa in 2007 & 2008	Private Universities
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It should be noted that the Webometrics global ranking in the same month this year placed University of Benin first in Nigeria but 31st in Africa. Federal Polytechnic, Auchi was placed second and University of Ibadan came third in their ranking (*News: 4:00 pm August 5, 2012*). What this implies is that criteria differ between the different ranking groups. One thing is clear. The top five universities in Nigeria are those listed in Table 4.

In 2011, University of Ilorin led in Nigeria in the 30th position (in Africa) while UI, Unilag and OAU follow closely in the 33rd, 34th and 35th positions respectively (Table 5). The situation has improved tremendously now as the leading university in Nigeria this year (2012) according to **4icu.org** ranking is in the 16th position in Africa. The question now is, how do these leading universities get closer to their South African and Egypt counterparts?

Table 4. The top 5 Nigerian universities in the July 2012 Webometric ranking . Source: <http://www.4icu.org>.

University	Nigeria	Africa
University of Lagos	1	16
University of Ilorin	2	39
University of Ibadan	3	40
Obafemi Awolowo University, Ile-Ife	4	42
University of Benin	5	45

Table 5. Top 10 universities in Nigeria in 2011.

	UNIVERSITY
1.	University of Ilorin
2.	University of Ibadan
3.	University of Lagos
4.	Obafemi Awolowo University
5.	University of Benin
6.	Federal University of Technology Akure
7.	Ahmadu Bello University
8.	University of Port Harcourt
9.	Lagos State University
10.	University of Nigeria Nsukka
	Dropped from 2010's Top 10
	University of Jos
	National Open University of Nigeria
	Covenant University

Source: www.nairaland.com

	Maintained same rank		Moved up		Moved down
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In 2010, seven out of the top 10 universities in Africa were all from South Africa, while three were from Egypt (Table 6). In 2011 and 2012, two of the top ten are from Egypt while the rest are from South Africa (Table 7 & 8). South Africa and Egypt are two countries where the government invests more money in education than many other countries in the continent. This clearly suggests that the limitations of universities which do not rank high could be traced to the extent of funding of these universities.

On March 14, 2010 the *Ashraf Khaled* Issue No 49 in Egypt published the following information: "Egypt's higher education budget has been increasing by 10% a year to reach LE11 billion (US\$2 billion), Minister of Higher Education Hani Helal told a seminar recently. "But it is still limited compared to the growing numbers attending universities every year," Helal said, adding that **shortage of money** remained the "key challenge" to improving quality" in universities.

Table 6. The top 10 universities in Africa in 2010

1.	University of Cape Town	South Africa
2.	University of Pretoria	South Africa
3.	Universiteit Stellenbosch	South Africa
4.	University of the Witwatersrand	South Africa
5.	The American University in Cairo	Egypt
6.	University of KwaZulu-Natal	South Africa
7.	Rhodes University	South Africa
8.	Cairo University	Egypt
9.	University of South Africa	South Africa
10	Mansoura University	Egypt

Table 7. TOP 10 UNIVERSITIES IN AFRICA IN 2011.

1.	University of Cape Town	South Africa
2.	University of Pretoria	South Africa
3.	Universiteit Stellenbosch	South Africa
4.	The American University in Cairo	Egypt
5.	University of the Witwatersrand	South Africa
6.	University of KwaZulu-Natal	South Africa
7.	Rhodes University	South Africa
8.	University of South Africa	South Africa
9.	Cairo University	Egypt
10	University of Western Cape	South Africa

Table 8. TOP 10 UNIVERSITIES IN AFRICA IN 2012.

	University	Country	World Rank	Score
1.	University of Cape Town	South Africa	387	53.2
2.	Universiteit Stellenbosch	South Africa	455	<i>Data withheld</i>
3.	University of the Witwatersrand	South Africa	473	<i>Data withheld</i>
4.	University of Pretoria	South Africa	646	<i>Data withheld</i>
5.	Rhodes University	South Africa	651	<i>Data withheld</i>
6.	University of South Africa	South Africa	729	<i>Data withheld</i>
7.	Cairo University	Egypt	770	<i>Data withheld</i>
8.	University of KwaZulu-Natal	South Africa	778	<i>Data withheld</i>
9.	University of Western Cape	South Africa	992	<i>Data withheld</i>
10.	The American University in Cairo	Egypt	1,043	<i>Data withheld</i>

On April 9, 2010, Johann van Wyk of South Africa posted this information on the Internet and I quote: “The Department of Higher Education and Training has allocated R1.8bn to research “outputs” for 2010/11 session and recently put R1.6bn into infrastructure improvements in higher education, with a special focus on science, engineering, technology and education, according to acting deputy director-general, Kirti Menon”. R1.6bn, at the conversion rate of 1 Rand to ₪18.2 is ₪29.12tr. The R1.8bn allocated to research outputs is ₪32.76tr.

In the ~~₦4.92tr~~ budget presented to the National Assembly exactly a week ago (Wednesday October 10, 2012) the Federal Government allocated ~~₦426.53bn~~ to education. This is **USD2.66bn** which is only slightly higher than what Egypt allocated to higher education alone in 2010.

South Africa has already allocated R207-billion to the Education sector for 2012/13 budget year, with projections that this may rise to up to R236-billion over the next three years. R207bn is ~~₦4.29tr~~. So what Nigeria has budgeted for Education this year is an infinitesimal percentage of what South Africa will spend. It is also glaring from these figures that our entire budget for 2013 is of the same order of magnitude as what South Africa is spending on Education currently.

Table 9 below is meant to buttress my point further but unfortunately the information presented is incomplete. The point I want to make is that a few decades ago, Egypt and South Africa were not doing better than Nigeria in respect of the percentage of money allocated to tertiary education from the total allocation to education. While these two countries have progressively increased the percentage of total allocation for education that they spend on tertiary education, Nigeria has chosen the path of standing still which is the worst form of retrogression in a competitive environment. Afterall *"Standing still (or drifting aimlessly) is the fastest way of moving backwards in a rapidly changing world."* Lauren Bacall.

Table 9: Comparative analysis of spendings on tertiary education for some selected african countries.

YEAR	COUNTRY	SPENDINGS ON TERTIARY EDUCATION AS A PERCENTAGE OF TOTAL EXPENDITURE ON EDUCATION.
1981	NIGERIA	20.0%
	EGYPT	25.2%
	SOUTH AFRICA	Not available
1995	NIGERIA	Not available
	EGYPT	32.6%
	SOUTH AFRICA	14.5%
2005	NIGERIA	Not available
	EGYPT	30.5%
	SOUTH AFRICA	15.1%
2010	NIGERIA	
	EGYPT	
	SOUTH AFRICA	

SOURCE: WORLD STATISTICS (VARIOUS YEARS)

I carried out a small fact finding mission on the Internet recently by using the Google search engine to look for information on funding Tertiary Education in Nigeria, Egypt and South Africa. The first 10 documents the search revealed for these three countries are presented in Table 10.

Table 10. Spot comparison of information on funding of tertiary education in Nigeria Egypt and South Africa readily available on the Internet.

	Nigeria	Egypt	South Africa
1.	Innovative funding in the Nigerian University ...	Egyptian Universities – Wikipedia, the free encyclopedia	Public funding of higher education in South Africa by ...
2.	VC calls for increased funding of universities* ...	EGYPT: More funding needed to raise quality – University World News.*	Funding of public higher education in South Africa.
3.	Private varsities appeal to FG for funding.*	Scholarships – AMIDEAST.	Funding Challenges for a South African University.
4.	Appreciating funding problems of public universities.	Recent Grants – Egypt-Japan university of science and Technology.	Promoting access and success at South African universities.
5.	Funding, Not problem of education in Nigeria.*	Financial Support – The American university in Cairo	allAfrica.com: South Africa: university Funding Review – NSFAS and ...
6.	ASUU seeks increased funding for universities.*	Scholarships – The American University in Cairo.	Funding African Universities – Grand Valley State University.
7.	NUC set to improve university funding guidelines.*	Student Grants – Fullbright Commission – Grants and programs	In Africa’s universities, quantity threatens quality.*
8.	The impact of ETF Funding on Nigerian Academic Libraries: A case study.	IIE Cairo – Programs and scholarships.	Funding – University of the Witwatersrand.
9.	Recent Grants – Mac Arthur Foundation – Nigeria.	Assiut University. Assiut, Egypt.	The National Student financial Aid scheme of South Africa.
10.	... Veritas University seeks catholic funding of N500 per head.*	A vision for Egypt’s universities.	South African government to overhaul funding of research.*

*Those that indicate shortcomings.

It is obvious from this compilation that the situation in Nigeria is more of agitation for increased funding than information on funding and scholarship opportunities which is the situation for Egypt and South Africa.

In **Egypt**, there are 18 government and 17 private universities. Government universities provide free education but are under-funded when compared with private universities. Private universities in Egypt receive no state funding and are solely dependent on their resources and supporting foundations and societies. Tuition and fees range from \$2,000 to 11,000 per semester. The lower limit of USD2000 per semester is about N320,000.00 which is the lower limit per session in Nigeria but which very few Nigerians can afford. The upper limit of USD 11,000 per semester is about ₦1,76m which only an extremely few can afford. Only one private university in the country charges close to this amount per session. One emerging fact from this revelation is that unless something is done to the purchasing power of the Naira either through increasing its value or by boosting the financial power of the average Nigerian through increase in earnings, our private universities will never move close to the level of private universities in Egypt. The best university in Egypt, **The American University of Cairo** is privately owned. This university came fifth in Africa in 2010 and fourth in 2011 (Tables 6 and 7).

Age is a factor to reckon with in respect of ranking. The older a university is, the higher the possibility of having the facilities that will enable it to rank high. The American University in Cairo was founded in 1919. Most private universities in Egypt were established after 1993 just like in Nigeria but Nigerian private universities are trailing behind virtually all of them due to the reasons stated earlier. In Egypt, new private universities are accredited by the **Egyptian Supreme Council of Universities** (the equivalent of our National Universities Commission (NUC), every 3 years, in addition to accreditation from foreign educational bodies in Europe (which we do not have in Nigeria). Critics of the regulatory activities of NUC in Nigeria have probably not given it a deep thought. In addition to NUC, Nigerian universities, both public and private, must be subjected to accreditation from foreign international educational bodies. Other private universities in Egypt which both private and public universities in Nigeria should understudy with a view to improving on educational standards are: **Université Française d'Égypte; The British University, Egypt; The German University, Cairo; Pharos University, Alexandria** which was founded just in 2006.

In South Africa's University of the Witwatersrand (Wits University) which came fifth in Africa in 2011 (see Table 7), there are two special Research grants that serve as incentives to academic staff. First is the **Teaching and Learning Research Grant** which is about R10 000 (₦182,000.00) each and disbursed five times annually. There is usually a call for proposals during the early part of the year and this is managed by the Secretariat in the Registrar's office. The grant is only available to permanent staff and is directed towards furthering knowledge on teaching and learning in higher education.

The other grant is **The Vice-Chancellor's Research Award** which is the University's most prestigious award for research. As I address you today, nominations have been invited for the 2012 award. The closing date is Mon 17th September 2012. All I am saying is that in South African universities, incentives are given to boost academic excellence. In virtually all South African universities, cash incentives are given for publishing in reputable journals. How many universities in Nigeria do this? This should be 'Food for thought' for the management team of every university in this country.

The **University of Cape Town (UCT)** has consistently been the leading university in Africa in the last few years. As at 2009, this university had 23,500 students, 2,520 Administrative and support staff and 1,980 academic staff. Of the 23,500 students, 6,700 were postgraduates while 15,800 were undergraduates. The university has four sub-urban and two urban campuses. It was established in 1829. It is described as a **Public Research University** and it is the oldest in South Africa. Between 85% and 90% of academic staff hold doctoral or masters qualifications.

UCT is the highest ranked African university in the QS World University Rankings, the Times Higher Education World University Rankings, and the Academic Ranking of World Universities. It achieved a rank of 156 in the 2011 QS World University Rankings, and a rank of 103 in the 2011 Times Higher Education World University Rankings, making it the only African university in the top 200. Within this same ranking UCT was placed in the top 50 in the categories of life sciences and social sciences. UCT's MBA programme was globally ranked at 60 in 2011 by the Financial Times and was ranked first in the "value for money" category. In addition to this, UCT was placed as the second best business school in Africa and the Middle East in the 2010 QS Global 200 Business Schools Report. The University also achieved a rank of 141 - 145 in the Russian based Global Universities Ranking.

Five of UCT's graduates have become Nobel Laureates. They are:

- **Ralph Bunche**, American political scientist and diplomat awarded the Nobel Peace in 1950 for his role in the 1949 Armistice Agreements.
- **Max Theiler**, virologist awarded the Nobel Prize in Physiology or in 1951 for developing a vaccine against yellow fever.
- Professor **Allan McLeod Cormack** (Medicine, 1979).
- Sir **Aaron Klug** (Chemistry, 1982).
- Professor Emeritus **J.M. Coetzee** (Literature, 2003)

Names of 10 Notable Staff of this university are listed on their website. These are academics who are potential Nobel Prize winners due to several breakthroughs in their fields.

This little information I have provided on UCT is just to wet the appetite of those who may like to know through web surfing why there is so much gap between us and this university. More information about infrastructure and facilities in this university will definitely reveal that the journey to Cape Town is indeed a tortuous one.

Finally, Table 11 reveals that only five universities in Africa are currently among the top 1,000 in the world. Three of them are in the top 500. What this means is that even South Africa and Egypt have a long way to go towards reaching global standards. In spite of this, I am still insisting on a trip to these leading countries in Africa and not a trip to Harvard, Stanford or MIT in America or Cambridge, Oxford or Southampton in the United Kingdom. It is better to take one step at a time on solid ground than to attempt to cross a gulf with one blind jump.

I know that skeptics may not be comfortable with my leaning towards Egypt and South Africa based on Webometrics rankings alone. As a result, I have gathered a few demographic and economy parameters of these two countries and compared them with Nigeria. These parameters which are presented in Table 12 are quite revealing. Nigeria is the most populous and population growth rate is highest but with the least GDP and highest percentage of

Table 11. The distribution of the Universities by region as at January 2012.

Region	Top 100	Top 200	Top 500	Top 1000	Total
North America	79	99	178	398	3485
Europe	16	66	212	415	4975
Asia	3	20	66	104	6142
Latin America	2	9	19	39	3487
Oceania	1	6	20	35	149
Arab World	0	0	2	4	569
Africa	0	0	3	5	355
World					19161

Source: <http://en.wikipedia.org>

Table 12. Comparison of selected Demographic and Economy parameters of Nigeria, Egypt and South Africa.

Demographic Parameters	Nigeria	Egypt	South Africa
Population	170,123,740 (July 2012)	83,688,164 (July 2011)	48,810,427 (July 2012)
Population growth rate	2.553% (2011)	1.922% (2011)	-0.412% (2011)
Education expenditures	Not available	3.8% of GDP (2008)	5.4% of GDP (2009)
Economy Parameters			
GDP (purchasing power parity)	\$414.5 billion (2011) \$387.8 billion (2010) \$356.7 billion (2009)	\$515.4 billion (2011) \$509.3 billion (2010) \$484.3 billion (2009)	\$554.6 billion (2011) \$536.3 billion (2010) \$521.5 billion (2009)
Population below poverty line	70% (2007)	20% (2005)	50% (2000)
Unemployment rate	21% (2011) 4.9% (2010)	12.2% (2011) 9% (2010)	24.9% (2011) 24.9% (2010)
Budget surplus (+) or deficit (-)	-3.3% of GDP (2011 est.)	-10.6% of GDP (2011)	-5.2% of GDP (2011 est.)
Economy Overview	Oil-rich Nigeria has been hobbled by political instability, corruption, inadequate infrastructure, and poor macroeconomic management but in 2008 began pursuing economic reforms. Nigeria's former military rulers failed to diversify the economy away from its overdependence on the capital-intensive oil sector, which provides 95% of foreign exchange earnings and about 80% of budgetary revenues.	Occupying the northeast corner of the African continent, Egypt is bisected by the highly fertile Nile valley, where most economic activity takes place. Egypt's economy was highly centralized during the rule of former President Gamal Abdel NASSER but opened up considerably under former Presidents Anwar EL-SADAT and Mohamed Hosni MUBARAK. Cairo from 2004 to 2008 aggressively pursued economic reforms to attract foreign investment and facilitate GDP growth.	Economy - overview south Africa is a middle-income, emerging market with an abundant supply of natural resources; well-developed financial, legal, communications, energy, and transport sectors; a stock exchange that is the 18th largest in the world; and modern infrastructure supporting a relatively efficient distribution of goods to major urban centers throughout the region.

Source: <http://www.indexmundi.com>

people living below poverty line. Egypt is doing better than Nigeria and South Africa in unemployment rate and the three countries are guilty of poor budget management. The

summary of all these is that Nigeria is not only poorer than these two countries but needs to improve on the management of her resources. The economy overview statements on each country speak volumes. Suggesting a “journey” to Egypt and South Africa is therefore not undesirable.

I have also not chosen Ghana where there are universities that rank higher than Nigerian universities simply because none of them is in the top ten in Africa. It should be placed on record however that two universities in Ghana ranked higher than the University of Benin which ranked highest in Nigeria in this year’s Webometrics rankings. University of Ghana in Legon (established in 1948) was ranked 19th in Africa and 1,797th in the world. Kwame Nkrumah University of Science and Technology in Kumasi (established in 1952) ranked 29th in Africa and 2,367th in the world. Incidentally, these are the two oldest universities in Ghana. Our own University of Benin ranked 31st in Africa and 2485th in the world.

Lowering of Population to Students’ ratio.

In Nigeria, records show that less than 10 percent of candidates eligible for higher education are enrolled in the tertiary institutions. This is very low when compared with the UK and US where 60 percent and 70 percent of eligible candidates respectively have access to higher education. In Nigeria, the Open University is trying in spreading university education to Nigerians but two pertinent questions to ask are: i) how effective is their programme? and ii) how many students are enrolled?

Table 13. The ratio of population to students’ enrolment in Nigeria and a few countries.

COUNTRY	POPULATION (approx)	NO. OF UNIVERSITIES	TOTAL STUDENTS ENROLMENT	POP/ ENROLMENT
Nigeria	120m (170m)	117 (124)	727,765	165 (233)
India	1bn	8,407	6,060,418	165
Indonesia	242m	1,236	1,889,408	128
South Africa	44m	19	800,000	55
Japan	127.5m	1,223	3,917,09	32.5
USA	296m	5,758	14,261,778	20.7

Modified from: NUC/UVAH (2006)

Each university can tackle the national issue of population to student ratio with support from the proprietors. As aforesaid, e-learning, is a way out. This brings to mind the prospects of e-learning which many universities are now toying with. In more advanced countries, e-learning has given a large percentage of the population access to higher education. It has provided delivery modes that take learning to learners wherever they are and not necessarily within the confines of university campuses.

It is not sheer coincidence that Japan and USA have a lower population to students’ ratio than Nigeria. The more a country spends on university education, the less this ratio is.

Lowering Staff to Student Ratio (TSR) to the optimum

High Staff to Student ratio is one fundamental problem that should be solved in Nigerian universities. In 2005, the Staff to Student ratio (TSR) in Nigerian university system was 1:28 (Uvah, 2006). This is rather high. Education experts have warned that a high value of this index suggests over-extension of staff leading to ineffectiveness of the individual staff members. This paved the way for the so-called “excess load allowance” which should be regarded as an aberration in our university system. It is also not desirable for the index to be too low because this indicates inefficiency in resource utilization. According to Oluwole (2005), the TSR in Nigerian Universities is about double what it is in standard universities and twice what it was in 1990.

Facts are there to show that the phenomenal increase in student enrolment (nationwide) between 1990 and 2004 (from 200,774 to 727,765) was not matched by corresponding increase in staff strength (13,645 to 26,291). From the statistics presented in Table 13, the population to student enrolment ratio is 165 for Nigeria while it is 20.7 for USA and 32.5 for Japan. US/Nigeria ratio is 12.5%, which incidentally is the same ratio (13%) of students who secured admission to universities to the total number that are qualified.” This is a problem that must be addressed at the level of the Committee of Vice-Chancellors.

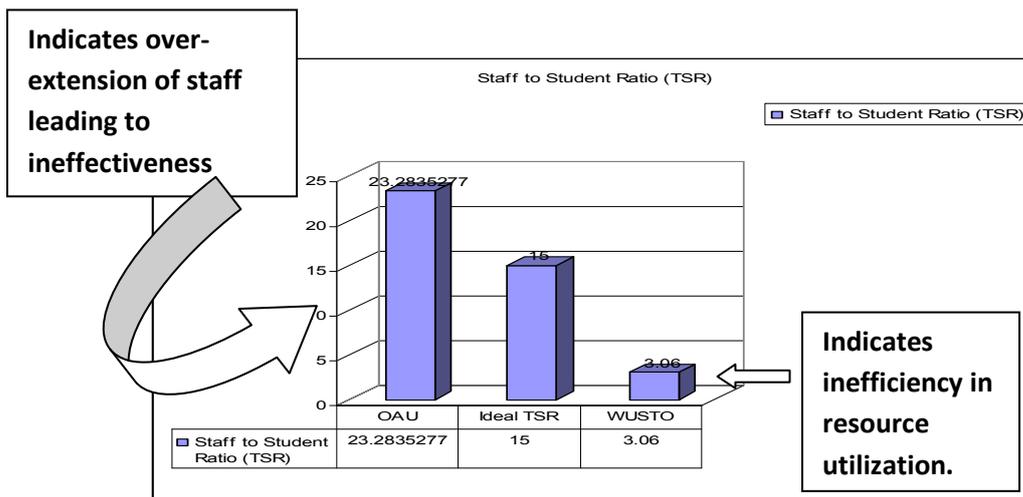


Fig.1. Staff to Student Ratio: the ideal and extreme situations.

The staffing situation and Staff Student Ratio in a young private university and a first generation university are compared in the figures below. One could see clearly the ideal situation in the brand new fledgling university.

In this university (OAU), the number of Academic staff declined from 1,259 in 1999/2000 to 1,029 in 2003/2004. The academic staff strength now stands at 1,372 which indicates a 33% increase. Total staff strength also declined from 4,673 in 1986 to 3,960 in 2000. As at December 2005, staff strength stood at 3,676. Today, it is 4,106 which suggests 11.7% increase. The overall implication of this is that increase in staff strength has been in favour of academic staff. This is commendable but still far from the required standard.

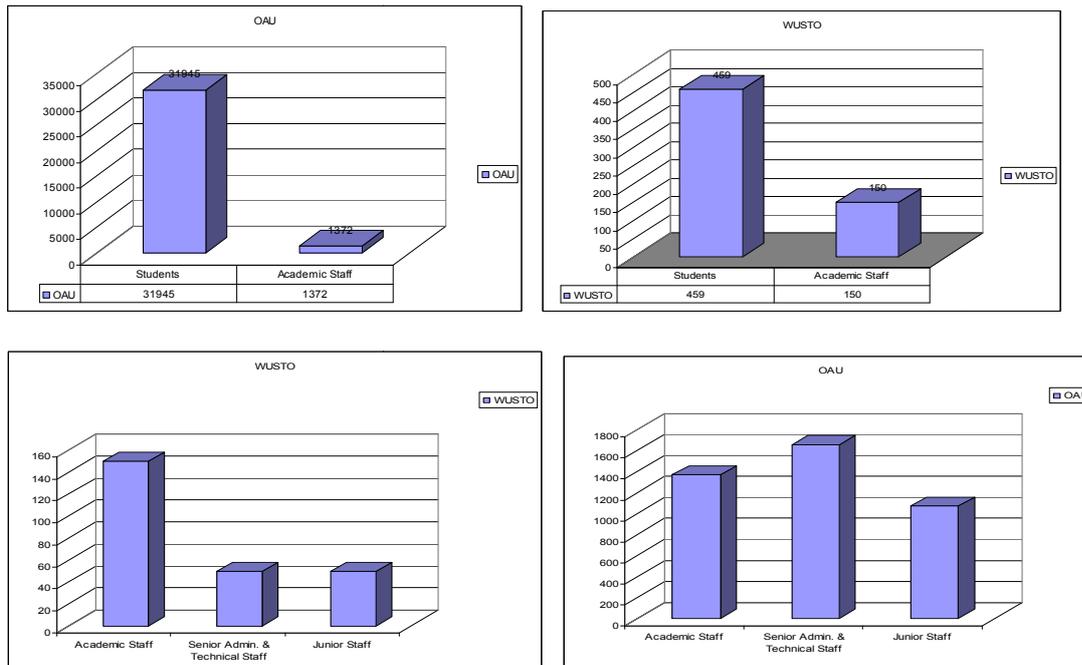
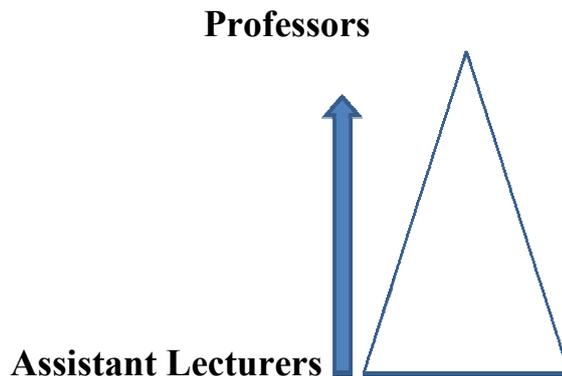


Fig. 2: Comparison of staffing situations in a first generation and a new university.

Return to Staff Pyramidal Structure



Another problem in Nigerian Universities is that staff hierarchy does not follow the desirable pyramidal structure. In the year 2000, OAU had 212 Professors, 237 Senior Lecturers, 284 Lecturers and 240 Assistant Lecturers. In 2005, the reverse of the pyramidal structure remained with 277 Professors, 203 Senior Lecturers, 282 Lecturers, 119 Assistant Lecturers and 78 Graduate Assistants. This is also true for Administrative staff. New universities that do not consciously nip this problem in the bud right from the onset will not only find it difficult to achieve the pyramidal structure but will also end up with a situation where non-teaching staff will be more than double academic staff as shown in Fig. 2.

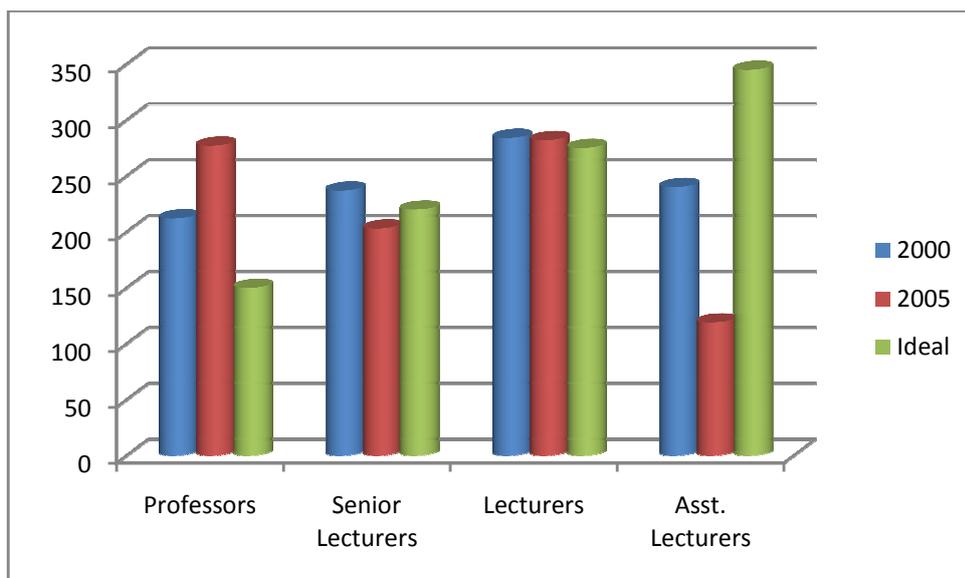


Fig. 3. Academic Staff by category in a First Generation University in 2000 and 2005.

Challenges Ahead

From the foregoing, it is obvious that the time is ripe for the following steps to be taken in this country:

- The Association of Vice-Chancellors of Nigerian Universities (AVCNU) should as a matter of urgency, set up committees that will look into Educational Policies in Egypt and South Africa, with a view to advising our government on improving on and implementation of our policies here in Nigeria.
- The proprietors of Nigerian universities (public or private) should increase meritocracy in the selection of membership of Governing Councils and Management Committees so that square pegs do not end up in round holes.
- The goals of each university should be redefined not just in content but in context to include an aggressive pursuit of teaching, learning, research, development and public service at a level that will meet global standards.
- Each Nigerian university should be compelled by law to embark on a conscious process by which an institution assesses its current state and the likely future condition of its environment, identifies possible future states for itself, and then develops organised strategies, policies, and procedures for selecting and getting to one or more of them. This is simply known as “**Strategic Planning**”.
- The Nigerian government should not only carve out a separate Ministry of Higher Education from the Ministry of Education as it obtains in **South Africa** and **Egypt**, it should also set in motion a situation whereby funding of tertiary education will increase gradually and progressively every year until such a time that we attain global standards.
- University administrators, whether public or private should be more aggressive in seeking funds from channels other than their proprietors and they should never allow their inner ego to misjudge any person they interact with in the course of their official duties.

This brings to mind the story of how **Stanford University** was established. The story goes thus: "A lady in a faded grey dress and her husband, dressed in a homespun suit walked in timidly without an appointment into the Harvard University President's outer office. The secretary could tell in a moment that such backwoods, country hicks had no business at Harvard and probably didn't even deserve to be in Harvard. "We want to see the President " the man said softly. "He'll be busy all day "the secretary snapped. "We'll wait" the lady replied. For hours the secretary ignored them, hoping that the couple would finally become discouraged and go away. They didn't and the secretary grew frustrated and finally decided to disturb the president. "Maybe if you see them for a few minutes, they'll leave" she said to him. The President, stern faced and with dignity, strutted toward the couple.

The lady told him "We had a son who attended Harvard for one year. He loved Harvard. He was happy here. But about a year ago, he was accidentally killed. My husband and I would like to erect a memorial to him, somewhere on campus."

The president wasn't touched....He was shocked. "Madam " he said, gruffly, " we can't put up a statue for every person who attended Harvard and died. If we did, this place would look like a cemetery."

"Oh, no," the lady explained quickly "We don't want to erect a statue. We thought we would like to give a building to Harvard."

The president rolled his eyes. He glanced at the gingham dress and homespun suit, and then exclaimed, "A building ! Do you have any earthly idea how much a building costs? We have over seven and a half million dollars in the physical buildings here at Harvard."

For a moment the lady was silent. The president was pleased. Maybe he could get rid of them now. The lady turned to her husband and said quietly, "Is that all it costs to start a university? Why don't we just start our own?" Her husband nodded. The president's face wilted in confusion and bewilderment. Mr. and Mrs. Leland Stanford got up and walked away, traveling to Palo Alto, California where they established the University that bears their name. Stanford University, a memorial to a son that Harvard no longer cared about." Stanford came third in the whole world in 2011 Webometrics ranking and this year too.

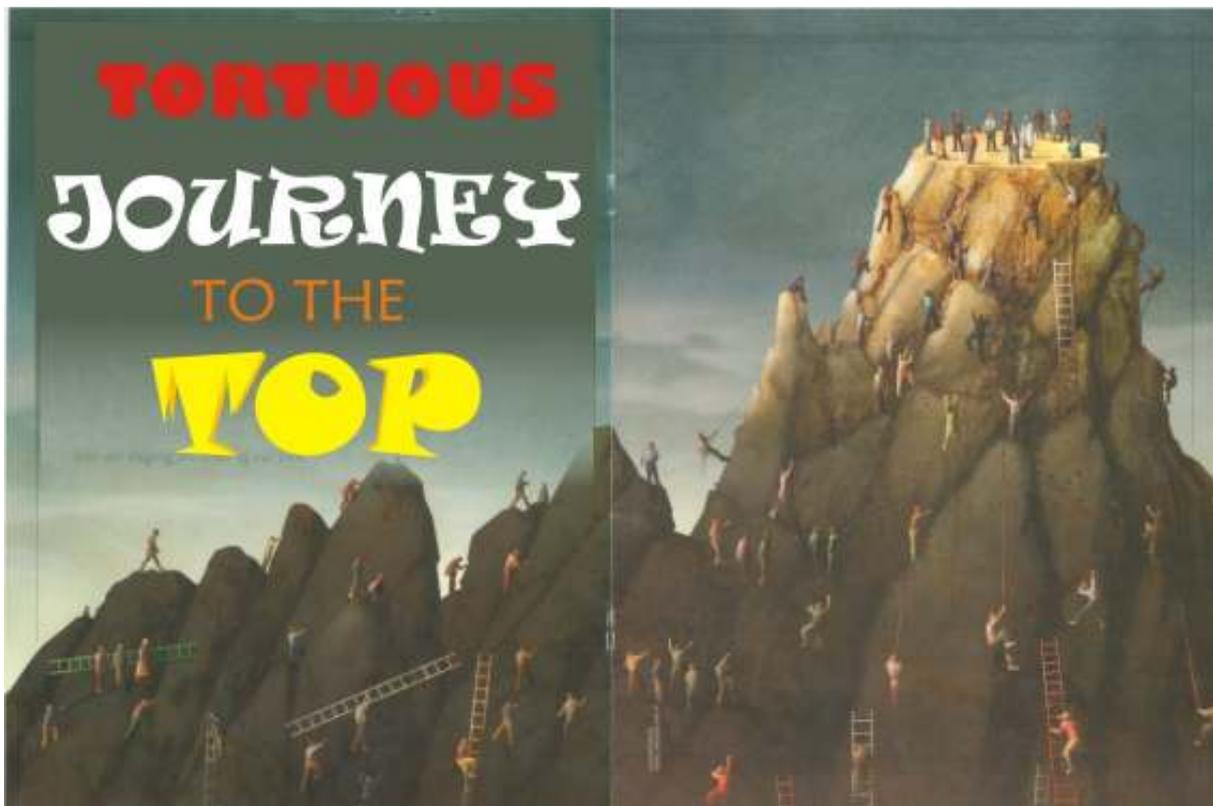
Today, that university which was established as a result of frustration of the founders in an attempt to be part of Harvard is at the same level with Harvard. Their alumni rule the Technology Universe. At the Inaugural Graduation Lecture of Wesley University of Science and Technology, Ondo on October 9, 2012, Prof. O.S. Adegoke presented a list of applications that are being used by millions of people on daily basis all over the world. All these applications listed in Table 14 were developed by alumni of Sanford University.

Every prospective university administrator must grow to a stage in life that he/she sees every obstacle as an opportunity and every wall as a door. The situation with universities all over the world is as presented in the illustration below. Many are merely chasing the shadow because they have chosen a path of development whose crest is far from the real top. All I am saying is that **Egypt** and **South Africa** are on their way to the top in the right direction. Some universities in Nigeria are not only far below them, many are approaching the top from a direction whose crest is far from the real top.

Table 14. The Stanford Solar System: Alumni that rule the Technology Universe.
 Source: Adegoke (2012).

Application	Year
MICROSOFT	1975
SUN MICROSYSTEMS	1982
YAHOO	1994
EBAY	1995
NETFUX	1997
GOOGLE	1998
PAYPAL	1998
LINKEDIN	2003
FACEBOOK	2004
INSTAGRAM	2010

At this juncture, let me sound a note of warning that we as a collective should all be on our guards against university administrators in Nigeria who promise to raise their universities into world class status within five years. It is nothing but a **PNP** syndrome where a **Psychotic** builds his castle in the air, the **Neurotic** lives in this castle and the **Psychiatrist** collects the rent. All that can be done by anybody within five years under the prevailing circumstances in our country at the moment is to lay a solid foundation for reaching the top from the right perspective and in the right direction.



Consequences of Mitochondrial Dysfunction (Inadequate Funding)

Having established that **adequate funding** is indeed the **mitochondria** of the cell called university, one begins to wonder what effects dysfunction of the mitochondria would do to the cell. In Cellular Biology, Dysfunction of mitochondria can affect the production of cell-specific products that are essential for proper cell functioning and energy production. This can eventually lead to cell death and failure of the organ system. It can even be fatal in some cases. When the ability of the mitochondria to produce energy is reduced due to certain defects, the condition is described as 'mitochondrial disease'. Reduced production of energy can lead to dysfunction of brain, vision problems, weak muscles, restricted movement of limbs, etc. Mitochondrial disease can destroy the health of any system or any organ of the body. It can destroy heart health, digestive health of the person. Any person at any age can have mitochondrial disease. However, symptoms may vary from person to person, and are often progressive. Some of the symptoms are recurring infections (weak immune system), reduced capacity of the heart, strokes, seizures, muscle fatigue, gastrointestinal problems, liver problems, diabetes, obesity, blindness and deafness (Bose, 2012).

Studies show that mitochondrial dysfunction is the root cause of many common illnesses. Several chronic conditions of adulthood have their origin in mitochondrial dysfunction, for example, Alzheimer's disease, Parkinson's disease, diabetes, hypertension, heart disease, osteoporosis, cancer, autoimmune diseases like multiple sclerosis, lupus and rheumatoid arthritis, etc. Dysfunction of mitochondria plays a significant role in premature aging symptoms (Bose, 2012).

The equivalents of these disease conditions exist in the universities too and they can all be tied to inadequate funding. Many universities in Africa have aged prematurely due to lack of maintenance culture. Many suffer from dysfunction of brain, vision problems, weak muscles, restricted movement of limbs, and above all premature death courtesy withdrawal of Operating licenses by NUC. Many universities show symptoms such as reduced capacity of the heart, strokes, seizures, muscle fatigue, gastrointestinal problems, liver problems, diabetes, blindness and deafness, the last two being attributes of visionless leadership.

I will not be surprised if there are universities in this country who do not have time bound Strategic Plans. Even those who have sometimes waited until the period had expired before coming up with another. I know ex-Vice-Chancellors who burnt a lot of energy fighting perceived opposition without paying attention to pertinent issues such as renovation of buildings until their last year in office. Such Vice-Chancellors even boast after leaving office that they renovated offices which they merely redecorated by painting. A leaking roof should stop leaking after renovation. But to these Vice-Chancellors who do not know the difference between the statutory duties of Deans and the Vice-Chancellor, mending leaking roofs is not part of renovation because they expect water to flow uphill against the force of gravity.

No university in Nigeria deserves such conservative academics as Vice-Chancellors. Unfortunately, they are smart politicians who know what it takes to become Vice-Chancellors. If the selection criteria are not based on the information contained in the *curriculum vitae* of the candidate, then it is faulty.

The idea of staff unions taking part in the selection process of Vice-Chancellors which I erroneously embraced in the past should be discarded. It has not worked. It has produced

deceitful candidates who later turned out to bite the very fingers that fed them. It is an exalted position that should be reached through a rigorous selection process by an international array of experienced university administrators and not politicians.

Every aspiring university administrator in Nigeria should go and read Dr. Jean-Pierre Bongalia's paper on "**Alternative Funding Strategies For African Universities**". It is available freely on the Internet. This paper provides results of a study on the American funding strategies conducted at seven most-funded universities which include Harvard and Stanford. One good thing about this paper is that it proposed alternative funding options that African universities can adapt to their own social and cultural environments. This underscores the need to embark on a journey to Cape Town and Cairo first before contemplating Europe and The Americas.

My position on going to **Egypt** and **South Africa** stems from my belief in **Afrocentrism**. Germany has one of the best economies in Europe because of their **Eurocentric** policies. Germany would rather buy coal from Czech Republic than from South Africa, Mexico or Brazil. If Nigeria embraces **afrocentrism** as a grand policy, the benefits in respect of home grown sustainable development will be tremendous.

Conclusion

As a matter of urgency, proprietors of Nigerian universities, whether public or private should speed up their rate of growth through increased funding and infrastructural development. This is in addition to the immediate solution of increasing the size of information available on each university's website. So also, academic staff should be encouraged to publish in Journals that can be accessed on line and not local journals that are not known internationally. Every university management committee should also be encouraged to increase the ICT content of their operations. e.g. On-line registration; on-line payment of tuition fees/sundry charges; Cashless Bursary; Paperless Administration, etc. I know that paperless administration is yet to be achieved in many Nigerian universities.

Permit me to cap all I have been saying since with my strong belief that universities are a critical driver of democracy and economic development in every country in the world. Enhancing the ability of universities in each country to graduate skilled workers continuously and conscientiously will expand the country's industrial base, address long-term development challenges, sustain civil society and make it possible for the country to compete more effectively in the global economy. Investing adequately in education will surely help foster economic growth, enhance productivity, contribute to people's personal and social development, and consequently help reduce social inequalities.

Many countries in Africa suffer from extreme poverty. There is a growing divide between the rich and poor. Transitions to democracy in formerly repressive societies are taking too long to accomplish. Globalization is taking its toll on developing countries. Universities are more empowered in **South Africa** and **Egypt** than in any other country in Africa because their systems have been organized to tackle these problems. This is why we must take a trip first to **Cape Town** and **Cairo** if we are interested in climbing the Webometrics ladder.

Let me conclude with a modified version of an Internet joke about Hell.

A Man from a very poor African country dies and goes to Hell, there he finds that there is a different Hell for each continent. Within each continent, there is a different Hell for each

country, but one is free to go to the Hell of any country of his choice. He swears never to go to his country's Hell because he feels his suffering will continue. He decides to go round and choose the least painful Hell to spend his eternity. He goes to the Egyptian and asks. "What do they do here?" He is told "first they put you in an Electric Chair for an hour, then lay you on a Bed of Nails for another hour, then the Egyptian Devil comes in and whips you for the rest of the day. The Man does not like the sound of that at all so he moves on. He checks out the South African Hell and discovers that it is similar to the Egyptian Hell. Then he reluctantly comes to the Nigerian Hell and finds that there is a long queue of people waiting to get in... Amazed, he asks. "What do they do here?" He is told "First they put you in an Electric Chair for an hour, and then they lay you on a bed of nails for another hour then Nigerian Devil comes in and Whips you for the rest of the Day." But that is exactly the same as all the other hells, why are there so many people waiting to get in?" asks the man... A concerned fellow calls him aside and said:

"Because there is never any STABLE ELECTRICITY in Nigerian hell so the Electric Chair doesn't work. The nails were paid for but were never SUPPLIED by the Contractor, so the bed is comfortable to sleep on... And the Nigerian Devil used to be a CIVIL SERVANT, so he comes in, signs his time sheet and leaves for Personal Business.

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