



## Response of Nigerian Universities to Climate Change Impacts: An Analysis of Programmes and Initiatives in Selected Universities

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### ABSTRACT

*A consensus is being reached that the danger and abruptness of climate change impacts pose one of the greatest challenges facing the world. Sadly, the legacy of climate science denial by Governments of the USA and its allies lingers and hampers efforts designed to mitigate and adapt to the menace: climate change. This paper examines the response of Nigerian universities to climate change. The objectives were to show how Nigerian universities have responded to climate change by: creating and managing specialized centers or institutes dedicated to the implementation of programmes (research, awareness raising for policy, decision makers, and various “publics”; mounting and/or offering specific course concentrating on climate change; progressed beyond offering pedestrian, moribund and obsolete courses comprising old concepts, principles and knowledge of climate science; and established programmes and instruments for disseminating information on the problem to various stakeholders: policy makers, civil society, communities and various “publics”. The methods of description and aetiology were employed. Data from primary and secondary sources were analysed using appropriate techniques. Primary data gathering involved using quota and purposive sampling to select some Nigerian universities to serve as samples. The findings include rather weak response of Nigerian universities to climate change. The specific details of the findings (i.e. expression of weak response to climate change) in individual universities include: gross inadequacy of specialized centers or institutes dedicated to the implementation of programmes (research, awareness raising for policy, decision makers, and various “publics”; failure to mount or offer specific course concentrating on climate change; perpetuation of pedestrian courses that are based on moribund and obsolete concepts, principles and knowledge of climate science casually mention climate change rather than specifically and focus intensively on the very dangerous and abrupt nature of the impacts of the debacle; and poor programmes and instruments for disseminating information on the problem to various stakeholders: policy makers, civil society, communities and various “publics”. The policy implications include the need to improve the conditions of Nigerian universities to transform them into instruments for adequately responding to climate change deserves the treatment as urgent and imperative. It is recommended that civil society should draw from its experience, versatility, competence and potential in resolving similar problems (but of lower intensity) to support Nigerian universities to improve their competence to respond adequately to climate change.*

**KEYWORDS:** climate change, Nigeria, universities, response, programmes, initiatives

### INTRODUCTION

Within the past two years or thereabout, there seems to have been an increasing acceptance that climate change poses one of the most challenging threats to contemporary life. This has, by and large, resulted from publication of overwhelming scientific evidence including the declaration by the Intergovernmental Panel on Climate Change (IPCC) in early 2007 that climate change is anthropogenic (i.e. the result of green house gas emissions arising from the consumption habits of human beings) and also resulting from the publication of earlier works of related organizations (ICPC, 2007, The Royal Society 2005, AMS 2003, and NRC 2001). For example, the Secretary-General of the United Nations (UN) stated in 2007 that “Few global issues are more important than the environment and climate change... Issues of energy and climate change can have implications for peace and security” (Ki-moon, 2007: xvi) of the world.

The increasing emission of green house gases (GHG) and the warming of the earth (commonly called “global warming”) associated with it has been reported to have reached a dangerous level. The major fear derives from the finding that in the 19<sup>th</sup> Century, the global mean temperature had risen to 0.6C. Consequently, a further increase in warming of only 1.4C is considered acceptable. This is based on the expectation that the mean long term increase in temperature (or warming) which must not be exceeded, except undesirable impacts are welcome, could proceed (or remain) at the rate of 0.2 C per decade (Matthes, 2006: 295 citing WGBU 2003 and 2004).

The cause of global warming and climate change has been traced to the release of carbon dioxide (CO<sub>2</sub>) through various human activities of which two are most significant: burning of fossil fuel and land use change contribute over 95% of global CO<sub>2</sub> emission (World Resources Institute, 2006 cited in Byrne, Kurdgelashvili, and Hughes, 2008: 27-54). Previously, the history of climate change has been fraught with reluctance, procrastination and inadequacy of leadership aimed at managing the debacle for over a century since the problem was first identified by Arrhenius in 1869 following the earlier work of his colleagues (Droege, 2008: 1-26, (Byrne, Kurdgelashvili, and Hughes, 2008: 27-54). It was only most recently, that President Barrack Obama acknowledged the enormous threat posed by climate change to the environment, economy and society, during his campaign for the presidency of the United States of America and also his victory at the elections and consequent inauguration in January 2009, the US Government's official response has mostly tended to deny that climate change was a problem. There was the prolonged denial of the scientific predictions of the havoc, impacts, warnings on the devastation that would be inflicted on various nations, regions and sub-regions) seem to demand much more work than previously expected. Owing to the recent realization that climate change is more abrupt and dangerous (Jaeger, Hare and Battaglini 2004) than it was previously thought to be, the need for universities to develop information and knowledge for supporting policy and decision for managing the problem deserves to be considered urgent and imperative.

Although the major actors who spearheaded the science denial such as the US Government, its agencies and parastatals have been undergoing reversal since the inauguration of Barack Obama as the new President of the USA in January 2009, there is no denying the fact that the past legacy of climate science denial by leaders of some developing nations and economies in transition (e.g. China and so forth) who responded negatively (following in the footsteps of the USA) to the weak climate-environmental leadership provided by the USA lingers on thereby extending the reluctance to deal decisively with problem. The need for enormous information systems as basic requirements for creating and managing climate change mitigation and adaptation schemes for supporting evidence-based policy and programming around the world and by all nations is easy to appreciate.

#### **Why It Matters That Nigerian Universities Respond To Climate Change**

With an area of 909,890 square kilometers, Nigeria, one of the largest countries in Africa located between longitudes 3 and 14 east and latitudes 4 and 14 North and south of the Gulf of Guinea coast of West Africa (National Bureau of Statistics, 2006: 1) presents an ideal case for analyzing the urgent and imperative need for information, knowledge, and competence for tackling climate change. Considering that weak climate-environmental leadership has dogged the climate change crisis for rather too long, the need for providing climate-environmental leadership for Africa at large and Sub-Saharan Africa deserves attention. Therefore, Nigeria's enormous demographic size and the woeful failure of her electrical power and energy sub-sectors (which have lagged behind in terms of innovation and development of environmentally friendlier energy technologies) imply that the national territory is one which is bound to add pressure to green house gas emission thereby worsening the problem of climate change. The nation's historical and practical responsibility in providing economic and political leadership on the African continent and to the Black world has been acknowledged since the brief but eventful rulership of General Muritala Ramat Muhammad from 1975-1976 when the country assumed the position of directing the political affairs of the continent. This history and experience ought to have placed the nation and her government and institutions strategically to extend her leadership role to the climate-environmental sector i.e. in addition to her widely acclaimed past and ongoing political leadership.'

#### **THE PROBLEM**

Irrespective of the vital importance of the information and knowledge about the problem of climate change for the planning and management of programmes designed to mitigate and adapt to the debacle, issues pertaining to the success or failure to provide and apply these essential resources have been ignored in the discussion and prioritization of development issues. Perhaps, most the most serious aspect of the problem is that while it is well known that the responsibilities of universities of a country include supporting policy/decision makers with required information and knowledge through vigorous research, teaching and community services (consulting and so forth)), there has been a

failure in Nigeria to assess the extent to which the national university system has played its role of informing policy and decision makers about the magnitude of the current and future scenarios of the problem of climate change.

### Questions

To what extent have Nigerian universities responded to the climate change problem? What historical, social, political (military dictatorship, corruption and so on) and environmental factors have hampered the Nigerian university system in living up to public expectations of providing information and knowledge required for supporting climate change mitigation and adaptation policy? How has the problem of under-funding of education sector generally and the university system in particular adversely affected the response of Nigerian universities to climate change? To what extent is the response of Nigerian universities to climate change adversely affected by the regulatory problems posed by the National Universities Commission? To what extent has the National Universities Commission promoted research on climate change as a way of supporting policy?

### Organisation of this paper

We present a conceptual framework comprising the theory of incrementalism in decision making to form a foundation for understanding the nature of policy making in Nigerian universities, and also a review of the Nigerian university system (its history and development, categories and related issues). We show the methods, data and data analysis techniques applied in the study, and the study's findings: the weakness of Nigerian universities in responding to climate change. We discuss factors that underlie the weakness of Nigerian universities in responding to climate change and present some case studies. We conclude the paper and recommend some strategies that are capable of reversing the situation.

## CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

### Incrementalist theory of decision making, planning and policy

The way universities in a nation respond to problems generally and climate change in particular depend on their attitude towards making decisions or policy regarding research, teaching and community service. The degree of response of the university system or otherwise is determined by the decision making culture. The incrementalist theory has been classified as one of the procedural theories of regional planning concerned with the content of planning and the things manipulated within the environment (Omuta and Onokerhoraye, 1986: 121). Incrementalism is anchored on the belief that government decision making is usually undertaken in relatively small adjustments (contrasted to radical shifts) to existing development policy. It is concerned with defining, examining the necessity or otherwise of various ways of substantiating change by small, disjointed steps, various forms of centrism and defense of the adoption of middle paths to decision making-at which point diverges radicalism and conservatism on the one hand and revolution and maintenance of the status quo on the other. It has been suggested that the preference for incrementalism arises from the consideration of the history and culture of the nations where it has been applied while these and other factors could make radicalism and revolution more preferable.

The origin of this theory is credited to the works of Charles Lindblom published in 1953 (with Robert Dahl), 1959 and onwards, Lindblom and colleague's conception of incrementalism has been considered an extreme denunciation of the theory of synoptic rational approach to policy and decision making and planning which emphasized comprehensiveness and rationality in addressing development problems and realities. To Lindblom, decision makers infrequently approach development situations with ideal goals in mind but only apply marginal changes to the existing problems that are raised to their attention and visibility. Therefore, policy reviews cover a limited number of the catalogue of problems or issues which are usually known to professionals in the fields of planning including academic research. Wyn Grant is among those who agree with Lindblom's claim that incrementalism describes decision makers' response to development problems and attitude to budgeting in stable Western democracies. However, Grant rejects incrementalism as a suitable approach to development scenarios characterized by considerable shocks (such as wars and other crises) in the decision making process (Grant 2003 in McLean and McMillan 2003: 262). Geographers and Regional Development Planners have highlighted Lindblom's conception of incrementalism as a more direct attack on development problems based on his conviction that the comprehensive rational approach to decision making is unoperable, idealistic, and impracticable even though it can be described, but only theoretically. To Lindblom, incrementalism offered a realistic, feasible, and immediate remedies to pressing development problems. He rationalized the significance of incrementalism by arguing that the urgency of issues raised to the attention of decision makers' tables do not deserve to be delayed so as to await the creation of comprehensive rational plans. The concern of incrementalism is to model reality by creating simple ideas which reduce the confounding complexity of real world problems which only professional planners and scholars deal with for creating information and understanding for decision makers. Another rationalization of incrementalism is that it facilitates linkages between the past, present and

future problems thereby assisting in understanding the history and knowledge of development issues. Radical adjustments to situations are seen to be capable of breaking the evolutionary and historical trend of problems. Incrementalism has been defended as being cheaper and faster because it facilitates savings from resources (money, time etc) that could have been frittered away if the comprehensive approach were adopted. It is considered to be suitable for systems framework which are perceived to be fragmentary and disjointed due to their constituent subsystems and elements. It has also been seen as suitable for decentralized political systems but unsuitable for centralized totalitarian systems where its disjointedness causes breakdown because of the need to clear all actions at the central power systems (Omuta and Onokerhoraye, 1986: 127-130).

Other advantages of incrementalism include: its facilitation of stable management, greater predictability of its outcomes, its greater appreciation of realism and pragmatism, ease of its implementation, its prevention of popular protests against public decisions; its reduction of idealism and low requirement of intellectual capital from its implementers. It has been criticized for being biased towards certain ideologies and classes, retrogressive, myopic and expensive in the long term as a consequence of its involvement of prolonged avoidance of the comprehensive rational and radical decision making and planning approaches. Moreover, it involves prolonged application of far too many of the “small” old solutions to the extent that the more dynamic problems make these solutions that were created long ago to become misfits for the newer solutions thereby complicating the new problems. The claim that incrementalism is cheaper is considered fallacious because and dubious because of its involvement of postponement of radical solutions that differ from the old practice. By this characteristic, it allows problems the time they require to build up, acquire devastating characteristics for affecting society. Some have argued that, like its peers in the theories of decision making, it is only one of the varieties of the one single decision making approach: rational comprehensive approach and not necessarily separate from it. In this regard, incrementalism assumes some conspicuous characteristics depending on prevailing circumstances (Igwe, 2005: 197-8). Yehezkel Dror's criticism of incrementalism centres on its suitability only in situations of unusual social stability and impracticability under conditions of social dissatisfaction with policy when problems are dynamic (ever changing) and availability of resources is characterized by transiency, featuring shortages (Grant 2003: 262).

That is, the choice between incrementalism and other decision making approaches is determined by several factors including ethics, class, ideology, and expediency of change required as conditioned by specific circumstances. While the level of socio-economic development determines the practicability of incrementalism, the fact that there remains scope for improvement in the most advanced societies makes the debate about the suitability of incrementalism in the advanced Western democracies doubtful, difficult and makes a case for other approaches including revolution and radicalism. Incrementalism, reformism, gradualism (in terms of the tentativeness of the latter two) cannot be easily distinguished from pragmatism and eclecticism because they smack of drawing their rationales from “practicality” instead of utopianism and their reliance on immediate utility contrasted to general laws and guiding principles (Igwe, 2005: , Grant, 2003).

The incrementalist theory is suitable for this paper because of the way it offers a framework for understanding the decision making attitude and disposition of Nigerian universities in responding to the problem of climate change which has been reported to be very dynamic or rapidly changing.

#### **Nigerian universities: A brief history of their emergence and development**

The development of the university in Nigeria could be more conveniently be presented in the following two broad categories: colonial era of university development and post-independence era of university development in the country. This period did not experience vigorous development of the university system due to the phenomenal exploitation of the economy of the “Nigerian colony” as the British colonialists described the area at the time for the sole benefit of the “British empire”. It has been argued in the discussion of the wider development planning history of Nigeria that the serious planning of the economy of Nigeria was not part of the major agenda of the British colonialists (Ayida and Onitiri, 1971).

#### **University development in Nigeria during the colonial era**

In order to enhance the understanding of the nature of response of Nigerian universities to climate change, a brief review of the origin and development of the system is necessary.

- (A) The history of the Nigerian university system, mostly of the conventional type (i.e. contrasted to those designed to promote technological development) has been traced to the establishment of the “University College of London” in Ibadan, a rather traditional city in south western part of Nigeria in 1949. The University of Ibadan was created as Nigeria's premier autonomous university later thereby laying the foundation for what has become popularly known as Nigeria's first generation of universities. A few other universities, which were established in

the post independence era form the first generation universities.

### **(B) The post-independence era of universities development in Nigeria**

On gaining flag independence from the British colonialists on 1<sup>st</sup> October 1960, a few other universities were established using the financial resources of Nigeria's Federal Government to serve the development needs of the four sub-national regions of Nigeria as follows: Ahmadu Bello University for the northern part; University of Lagos, for the south western part; and the University of Nigeria, Nsukka, for the south eastern part. Owing to the visionary educational promotion programmes of the government of the Premier of the South Western region (Chief Obafemi Awolowo), the University of Ife (currently Obafemi Awolowo University, Ile-Ife, was created using the funds generated from the export of unprocessed cocoa, a major agricultural resource produced in the south western Nigeria region.

#### **The “oil-boom” (second generation) Nigerian universities**

The advent of considerable increases in revenues earned from the export of Nigeria's crude petroleum to western nations in the 1970s (the “oil-boom era), facilitated the establishment of additional universities during the mid-1970s. This saw the establishment of other universities in more Nigerian towns including: the north (Maiduguri, Kano, Sokoto, Jos, Illorin); the south east (Calabar, Port Harcourt –and later in Uyo).

#### **Technological and agricultural universities**

The Federal Government of Nigeria established more universities in the late 1970s and 1980s with the aim of catalyzing and facilitating Nigeria's achievement of development in the areas of technology and agriculture. Some of the towns which became hosts of the universities of technology include Minna, Bauchi, and Yola, in the north; Akure in the south west; and Owerri in the south east. The towns that gained the Federal Universities of Agriculture include: Markurdi in the north; Umudike in the south east; and Abeokuta in the south west.

#### **State universities**

State Government funded and managed universities emerged in the 1980s in southern Nigeria in Ekpoma (former Bendel State and currently in Edo State) and spread rapidly westwards and eastwards in southern Nigeria to urban centers like Lagos, Uyo, and so forth. The emergence of State universities in northern Nigeria is more recent (around the late 1990s).

#### **Privately owned and managed universities**

A combination of steady decline in intellectual and moral standards, the increasing incidence of violent cultic activities and prolonged extension of the duration of studies caused by frequent industrial action embarked upon by university teachers in Nigeria's federally funded universities prompted the competition for offering university education from Nigeria's private sector. The Igbinedion University located in Okada town in Edo State was pioneered by Chief Gabriel Igbinedion, a wealthy businessman, in the mid-western part of the country in the 1980s. Dissatisfaction with the educational and moral quality and quantity of public universities compelled various religious organizations led by Christians and much later Muslims to establish and manage universities designed to accomplish multiple gains in terms of higher intellectual and moral education. More recently (since the Fourth Republic was inaugurated in 1999), unscrupulous politicians who have stolen from Nigeria's public treasury have established more privately owned universities in the country.

## **METHODS AND DATA**

The method of aetiology and description were used in this study. This method is similar to origination and causation because it involves creating the nature of the principles and laws (both logical and empirical) that govern outcomes: in this case neoliberalism. Aetiology studies causation of outcomes of phenomena and things systematically and scientifically. The origin of aetiology has been traced to medical sciences, where the method has been used in studies to produce robust results. The procedure for applying aetiology comprises: preliminary description of the object of the study to provide a foundation for subsequently analyzing issues involved; determination of the fundamental constituents of the phenomena of interest in the study as well as the nature and principles governing inter-relationships among aspects of the phenomena. Interconnections among the origin, history and evolution of the subject matter are established based on consideration that their consequences are not discrete but developmental, not final but dialectical. Owing to the robustness of results obtained from using aetiology for medical science studies, the method has been adopted for analyzing numerous issues in social sciences especially sociology and criminology such as gangsterism, mafia, cultism, delinquency among others (Igwe, 2005: 6, 56-7). Dialectical characteristics of most issues referring to the way two aspects of situations make them to affect each other (Hornby, 2005: 402) make them amenable to analysis by applying aetiology. Data from multiple secondary but reputable sources were used.

The method of description was also used. According to M.B Ogunniyi (1992), this method is suitable and beneficial in several regards. It has proved to be suitable for: investigating the status of things (in this case, response of Nigerian universities to the problem of climate change); highlighting the relationship between this subject matter and Nigerians' aspiration to achieve sustainable development in the country; investigating and understanding (response of Nigerian universities to the problem of climate change), an issue which has been ignored by academic researchers; highlighting clues about factors underlying the issue (response of Nigerian universities to the problem of climate change) for further studies; It facilitates the creation of hypotheses for further studies that might be amenable to the application of experimental research methods. The case study method was the specific type of description used. Owing to the existence of over 100 universities, excluding other tertiary educational institutions (colleges, mono-techniques and related institutions), in Nigeria, we applied the case study by using quota and purposive sampling to select a few of the universities, which are capable of reflecting the characteristics of the whole population of universities for in-depth study. We used the redemptive-cosmological approach of case study because of its suitability for our sympathetic and empathetic research aiming to contribute solutions to the problem of climate change in Nigeria (Ogunniyi, 1992: 65-78).

### **Data**

This study used data obtained from primary and secondary sources. Primary data was collected using face-to-face interview and focused discussion. The variables or issues studied pertained to the response of Nigerian universities to climate change. The term "response to climate change" is used in this article to refer to various activities created and implemented or managed by the nation's universities to tackle the challenges posed by climate change. Some of the "response" activities that universities in various parts of the world have undertaken (are still undertaking) as a means of arresting or resolving climate change include the following:

- 1) Emphasis was placed on the creation and management of a special center or institute that concentrates on climate change (and related disciplines).
- 2) The foregoing (1) was contrasted to (or distinguished from) combining the teaching and research of climate change merely as one or two topics within other courses such as "environmental change" in environmental science/management subjects or courses, departments, faculties;
- 1) offering of specific courses at various levels (undergraduate and graduate, in-service training of employees of workers in various sectors (such as public, private including civil society and/or non-government);
- 2) Organization events (such as conferences, seminars, symposia, and so forth) designed to raise the awareness of various "publics" (policy/decision makers, communities, civil society and so forth) to the climate change debacle; and
- 3) Under (2), one special and potent variety of awareness raising on several issues (including climate change and other aspects of sustainable development) has the hosting of websites on the Internet has been perceived to be a veritable instrument for disseminating information on climate change.

### **Data analysis**

Data analysis involved qualitative interpretation of data and information reported by development organizations (Ingwe, 2005).

## **RESULTS**

### **Weak Response by Nigerian Universities To Climate Change**

The general result of this study is that Nigerian universities have responded weakly to the challenges posed by climate change. Specific findings of the study include the following inadequacies or deficiencies concerning climate change research, teaching and community service by the nation's universities:

1. Only one special institutes and/or centers of excellence designed and dedicated to climate change (and fresh water resources) research and action was found to exist at the Federal University of Technology, Mina, in northern Nigeria;
2. Almost all of the universities studied neither host special websites disseminating information on the impacts of climate change as part of their research findings and as a basis for their community service aimed at boosting or leveraging the quest for achieving sustainable development;
3. Only a few of the universities studied offer specialized degrees and diploma awarding courses in the sub-discipline of climate change (and/or in combination with development or any related subject);
4. Climate change is taught by most of the universities studied in a rather casual manner as mere topics encapsulated in other "major" courses such as "environmental change, climatology and so forth;

5. Only one of the universities (Nnamdi Azikiwe University, Awka in Anambra State) studied has organized an “international” conference on climate change and sustainable development. Owing to the rather poor way the event was organized, the conference was more national rather than being as “international” as it was advertised. This is because the event failed to attracting international scholars and practitioners and the public to participate either as speakers, ordinary participants, funders and so forth; and,
6. The universities are yet to seriously engage Nigerian policy/decision makers on climate change by organizing training courses for public office holders, workers, sharing information and knowledge and so forth. Details of the foregoing findings will be shown in tabular form

**Table 1: Initiatives and programmes responding to climate change in Nigerian universities**

University and location in Nigeria	Special programme /courses	Ad-hoc training offer	Awareness raising programmes	Hosting educational events	Dedicated Institute
University of Ibadan, South West	Courses offered under geography	Nil	Nil	Seminars	Nil
University of Calabar, South East	Courses named “environment” mention climate change csually	Nil	Nil	Nil	Nil
Federal University of Technology, Minna, North Central	Climate change courses offered	Nil	Nil	Nil	Centre for climate change and fresh water resources directed by a professor
Nnamdi Azikiwe University, Awka, Anambra State, South East	Offers undergraduate course in meteology and geography	Nil	nil	Hosted a climate change Conference in 2007 (12-14 June)	
Enugu State University of Science and Technology (ESUTECH)	Offers undergraduate course in meteorology and geography	Nil	Nil	Nil	Nil

Source: Author's research

### Some Specific Examples of Failure of Nigerian Universities

The failure of the Nigerian university to response to the challenges and opportunities enthroned by climate change deserve some illustration here. In 2008, the civil society prompted and assisted the Government of Cross River State (one of the 36 states that form Nigeria) to organize a pionnering environmental summit in Calabar, the capital of the state. The declaration of the State Governor and the Commissioner of Environment during the environmental summit to the effect that it desires to earn additional revenue by selling carbon credits through the development and repackaging of its immense forest resources has, by and large, not elicited serious assistance from the two universities: University of Calabar and Cross River University of Technology, CRUTECH, both of which have bases in the capital city: Calabar (Cross River State Government, 2008). As pointed out by Larry Lohmann, (2007), the inadequacies of carbon trading and related issues (Lohmann, 2007) which ought to be pointed out to the State government by the two universities are yet to be seriously undertaken based on the design of befitting programmes founded on well designed intellectual and professional bases, which conform to one or more of the issues analysed in this study.

While the Department of Geography and Regional Planning in the University of Calabar has two academic staff who claim to be specialists in the climate sciences (of the rank of associate professor (or reader) and senior lecturer respectively), the department is yet to put climate change as a separate academic agenda of the courses, programmes and services on offer by the university. Rather, the department's courses still have climate change “submerged” under other courses entitled: “environmental change” and similar descriptions. Despite the enormity of the climate change

debacle, this department is yet to raise the problem to the level of visibility it deserve within the academia and the wider society as a means of attracting policy attention designed to resolve the problem.

#### **Why Nigerian universities have responded rather weakly to climate change**

Against the foregoing background, the need to assess the response of Nigeria's universities to the problem of climate change is urgent and imperative if the understanding of the (in)sufficiency of research, development, and action is to be improved in the short to long terms.

The findings of the study is that the current response of Nigerian universities to climate change is very poor and below the expectation of a country of the economic, political, geographical, and demographic and social might that is possessed by the nation. This national poverty in form of intellectual, professional and managerial resources for tackling the challenges posed by climate change is attributed to following impediments and/or conditions:

The legacy of prolonged military dictatorship coupled with the rampant stealing of public funds, frequent diversion and embezzlement of funds budgeted for implementing planned projects especially those in the universities, which have been abandoned for about two decades. In "How Europe Under-developed Africa, Walter Rodney" eloquently demonstrated how several aspects of African nations and their institutions were rendered non-conformal or distorted due to the invasion of the continent by colonialists who achieved these socio-economic degradation through the "scramble for" and sharing of Africa among colonial powers thereby creating nation-states that exhibit various absurdities (Rodney, 1972);

The perpetuation of dictatorial attitude to government and gross under-funding of the university system in the Fourth Republic (i.e. return to civil rule in 1999) under the Obasanjo administration, which was not only dictatorial because of General Obasanjo's chronic indoctrination in the Nigerian army and its attitude to government and the increasing findings about the gross corruption that was perpetrated during the 8-year presidency (1999-2007);

The replication of the bad leadership attitude by most of the governors of Nigeria's 36 states, most of which have established and are running universities based on the wrong paradigm of under-funding, the incorrect belief that a university is complete if buildings are constructed and teachers and a few staff are hired and directed to the classroom; The British colonial legacy in Nigerian universities is still taking a toll on the system and the way universities respond to challenges in many dimensions. First, the "footprint" of the British colonialist in the Nigerian university system manifest in the way the premier university of Ibadan was established with the deliberate wish of the colonialists to produce university graduates in subjects in the nexus of the classics and the humanities as a way of serving as staff of colonial government offices. This was done in a way that completely disregarded and underplayed the need to create courses in science and technology disciplines that are necessary for producing a vibrant human capital that is capable of assessing and harnessing available resources in Nigeria as a means of meeting the functional prerequisites (basic needs) of the Nigerian society. Owing to the deficiency of pioneering Nigerian universities in this regard, a culture of downplaying and disregarding science and technology programmes that are designed to respond to contemporary challenges of the society;

The emergence of a crop of unscrupulous Nigerian political and military rulers who succeeded the colonialists and some reliable Nigerian First Republic leaders and ever since embarked upon such ruthless stealing of public funds in ways that socio-economic development has been compromised thereby creating an economy that presents one of the most serious degrees of poverty worldwide (a 1997 survey revealed that about 70.2 percent and 90.8 percent of Nigerians lived on less than US\$1/day and US\$2/day!) yet remains one of the most well endowed in terms of natural and human resources.

The weak response of the Nigerian university system to climate change expresses in the following ways: Individual Nigerian universities have steadily lost autonomy including the power to initiate, plan, and implement academic, and professional programmes as well as the competence to create and manage revenue generating programmes over the years due to the way the various adverse conditions (bad or weak leadership, military dictatorship, embezzlement of public funds and so forth) played out in a circular, repetitive and ongoing manner. These problems have combined with systematic and prolonged under-funding have culminated in the dearth of "champions" of climate change (referring to individuals who are passionate and committed to understanding, tackling and managing the problem) through research aimed at proving information for policy and decision makers in Nigeria.

Although the responsibility of regulating Nigerian universities was recently allocated to a government agency called the National Universities Commission (NUC), the organization seems to lack the expertise, capacity, will, experience to adequately direct academic and professional activities in the large number of universities that have sprouted up rapidly. Nigerian universities have, by and large, remained incapable of generating funds from community serve and consulting with organizations in various sectors (private and public) due to their ignorance and abandonment of the



concept of the “entrepreneurial university” that has become a common revenue generation and independence-conducting instrument in university systems of other nations especially in Europe and North America (Stankiewicz, 1986). The failure to adopt the strategy and concept of the entrepreneurial university and undue over-reliance on governments for financing programmes is a pervasive affliction of the management of Nigerian universities. This is attributable to the over-dependence of Nigerian governments and institutions on the monolithic national economy that relies almost solely on earnings from the export of fossil fuels (petroleum oil from the late 1950s and more recently natural gas) and features considerably low productivity (Ingwe and Otu, 2009).

The policy on appointment of the chief executive (Vice-Chancellor) of the Nigerian university has been based on indigenisation-describing the favouring and appointment of an indigene of the state which hosts the university. Consequently, this practice that is devoid of a serious “search” for the most competent candidate who is capable of leading academic work and administration in the university as has been the practice in the university systems in North America and western Europe and elsewhere.

### CONCLUSION

The response of Nigerian universities to climate change has been and remains rather weak. Nigerian universities are yet to adequately live up to their responsibilities of informing policy/decision makers on the magnitude or seriousness of the problem of climate change by energizing their work and programme on research, development, teaching and community service as expected. The weakness of Nigerian universities in responding to climate change is attributable to several factors including the following: the legacy of colonial mentality regarding Nigerian universities' misunderstanding of their roles in resolving society's problems generally and climate change in particular; systematic under-funding of universities by government; and failure of Nigeria's universities to employ the concept of entrepreneurship to engage in revenue generative programmes including providing consultancy services for government and international organizations (e.g. United Nations agencies among others).

### RECOMMENDATIONS

Civil society organizations that are involved in climate change research and activism promise to constitute better instruments for facilitating climate change focused research, development and activism in Nigeria generally. Specifically, such civil society organizations, as experience has demonstrated are more strategically placed to assist Nigerian universities to improve their response to climate change regarding research, teaching, and community service. There is need for a vigorous civil society-led programme designed to facilitate training of researchers in Nigerian universities to better appreciate the challenges posed by the menace of climate change as a way of empowering them to more seriously respond to the debacle. Specifically, civil society must urgently engage the Nigerian Universities Commission to direct all faculties and departments concerned with earth and environmental sciences/studies (including geography, sociology, and subjects which are affected by climate change impacts) in the nation's universities to acquire knowledge through various means to design and manage programmes comprising (academic: research and teaching and community service) for mitigating and adapting to climate change.

Owing to the notoriety of Nigeria's successive elitist governments in depriving the federally owned universities the funds they require to engage seriously in climate change-related research and action programmes, the enormity of the problem beckons for radical approach towards confronting the Nigerian government with the aim of causing it to change its perception and treatment of the problem. The assistance of the UN, African union, ECOWAS among other organizations might be enlisted to assist in persuading the Nigerian government to increase funding of climate change remediation programmes.

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