

lvory Tower and its Impact of Research Development: A Study of Ibrahim Badamasi Babangida University, Lapai, Niger State

### A. M. Letswa & Abdulkadir Abdulmalik

Department of Political Science Ibrahim Badamasi Babangida University, Lapai **Email:** ahmadletswa@gmail.com; abdulkadirabdumalik@gmail.com

#### ABSTRACT

Universities are seen as centres for experimentation and knowledge production for development. Science and technology is a product of universities research efforts. At this backdrop, this study was undertaken to probe ivory towers and impact of research development, a study of Ibrahim Badamasi Babangida University, Lapai. The study adopted both quantitative and qualitative methods of data collection and analysis. Statistical Package for Social Sciences (SPSS) version 20 descriptive analysis and simple regression test as well as content analysis were used to analysed the questionnaires and interview respectively. The research found out that there is a relationship between IBB University and research development. There is relative enabling environment for research development as provided by the University. However, host community has not benefited from IBB University to come up solution driven researches. It was therefore recommended that capacity building by training of researchers on fundamental research techniques should be considered a priority by the University. **Key Words:** Research Development, lvory Tower

## INTRODUCTION

The role of tertiary institutions in developing communities has been highlighted by scholars and experts in the field of administration. Essentially, the function of tertiary institution in community development is to create a sense of equity for all individuals within that community. It also recognizes that societal transformation particularly in the socio-economic sphere is associated with the state and circumstance of its communities. Ali (2010) in his talk "Developing the Community: The Role of Universities and Open and Distance Learning" acknowledges that tertiary institution is "one of the factor that contributed to economic, social, material and spiritual well-being of the citizen. Today, universities focusing on advanced development research seek to accommodate the needs of society, the economic and social context, the aspirations and expectations of all and each of the social actors separately. It is generally accepted that universities perform three basic functions: research, teaching and learning and providing services to the community under conditions of institutional autonomy and academic freedom (UNESCO, 2009). Contemporary idea of the university, involves a university wisely relates to knowledge, which shall in addition to its traditional functions and a pronounced cultural function, has a strong role in the part of the community. Universities have assumed the role of educating the society and theatre for scientific research (Marga, 2009).

The mission of universities must always be redefined so that it answers successfully to the growing complex needs of the society which supports it. University must, on the one hand, reorganise itself according to criteria of performance and competitiveness in the field of scientific research, and, on the other hand, assume new responsibilities in the



professional training of the young generation - provide the young with the education necessary for citizenship in a democratic society. Ogundiya & Kura (2013), submit that research is the life wire of any progressive organization, institutions or society. It is the source of human civilization. Any society that underestimates and relegates or neglects research is undoubtedly bound to deteriorate. Thus, the survival, advancement and sustainability of state and its institutions and any other form of organization is a function of research. According to Eboh (2009), research is a lubricant that oils the wheel of progressive societies. It provides the evidence-base for government's social, economic and development policies. Technological innovations, therapy to life threatening and terminal diseases, transforming policies, to mention a few, emanate from the findings and outcome of research and curiosity of man to address societal challenges. In the contemporary World, lvory tower bears the flag of innovative research. This study thus, attempts to probe the impact of ivory tower on research development with a particular reference to Ibrahim Badamasi Babangida University Lapai, between 2007 and 2019.

#### Background of Ibrahim Badamasi Babangida University, Lapai

The Ibrahim Badamasi Babangida University (IBBU), Lapai, was originally conceived as "Niger State University". It formally took-off in 2005, following the enactment of its enabling Law: the Ibrahim Badamasi Babangida University Law, by the Niger State House of Assembly in March, 2005. In his speech at the University's Foundation-Stone Laying Ceremony on 31st March, 2005, the Executive Governor of Niger State and Visitor to IBBU, Engr. Abdulkadir Kure, underscored the importance of the University when he declared that:

Today's ceremony is unique and special to the people of Niger State because it marks the start of the first state-owned University and for my Administration, the realization of one of our most cherished dreams, which is the upliftment of the educational standard of our youth in particular and the people generally. Today marks a very significant turning-point of no return in our pursuit of the educational objectives of our Administration (P.2) (IBBUL Journal; 2006, 9)

IBBU occupies a special place because it is established to boost a mission of transforming society in Nigeria as a whole. This is implied in the announcement of the 'birth' of the University at the National level. In its Monday Memo (Vol. 4, No. 35) of 29th August, 2005, the National University Commission (NUC) announced the establishment of IBBU in accordance with Section 19a of the Minimum Standards Decree of 1993. Furthermore, the NUC expressed its pleasure to recognize IBB University as the 25th State University and the 74th University in the Nigerian University System (p.I). IBBU is a conventional, single-campus University-in-residence which began its operation with the four (4) Faculties: Natural and Applied Science, Education and Arts, Social and Management Sciences and Agriculture. The University is wholly owned and funded by the Government of Niger State. Academic Programmes in the University commenced in October, 2005, starting with 300 Preliminary Students, who along with other qualified candidates will form the pioneer set of students for the University's undergraduate programmes which began in October, 2006 (IBBUL Journal; 2006, 9). The University is named after General Ibrahim Babangida (rtd) in recognition of his distinguished Military



Career, his contributions to the development of Nigeria as its President and Head of State and in appreciation of many of the sterling qualities that make him a worthy representative of Niger State as well as the embodiment of its spirit and values. The Motto of the University is "Learning for Service" and it is inscribed in its Logo which the University's Academic Brief of March, 2005, described as meticulously and painstakingly selected. The Logo itself is encrusted within a green background which symbolizes the State's agricultural potentials. The circle in the crust is painted in white colour which also symbolizes peace while the name of the University is written in Golden Colour. Taken as a whole, IBBU has a highly utilitarian value (IBBUL Journal; 2006, 9).

#### Framework of Analysis

This research work uses modernization theory as a tool of analysis. Spencer, Talcott Parson, Emile Durkhem, Fredrick Riggs, Arthor Lewis, W.W. Rostow are among proponents of this theory. The theory conceives modernity in terms of a very specific mode of culture and social organization. In other words, development and modernization are synonymous (Jonatha, 2004). The author mentioned the main thrust of modernization theory. Firstly, it identifies the process to modernity and development which is the western scientific way of doing things. This brings about the dichotomy between traditional and modern society; complex and simple. Secondly, the theory assumes that prior to the transition from agriculture to industry, the economy must be market oriented, there must be individualistic ownership of the means of production, high degree of labour mobility, and rural – urban migration. Thirdly, the theory posits that underdevelopment is an original state of society. Thus, the causes of economic backwardness in the third world are internal not external. Sequel to that, for economic development to be realized, the traditional sector must be transformed; in this sense, economic development means industrialization.

It noteworthy that this theory has been criticized in two major ways: on one hand, it is Eurocentric. That is, it overemphasizes western ways of doing things. Modernization of society required the destruction of the indigenous culture and its replacement by more westernized ones. On the other hand, it postulates development in a linear way. That is, there is only one way to societal development. For a society to develop, it is has to undergo the definitive stages of development as identified by Rostow's five stages of development. However, despite these weaknesses, the theory is valid enough to be used as a tool of analyzing this study. Universities are theatres that proffer solution to societal problems. Professionals from across the disciplines are looked forward to providing solution to societal problems; to transform society from traditional ways of viewing and approaching physical world to more sophisticated way. Science and technology which is the bedrock of real transformation are acquired through the lvory towers. It is therefore plausible to argue that Third World nations can only overcome their socio economic and political challenges if their universities are recognized as the solvers of societal challenges by given them desired attention the way western industrialized nation did.





## Conceptual Clarification (Development

Niworu (2007) observes that development is a concept that has been subjected to different theoretical interpretations and empirical operationalization. Consequently, it eludes any precise definition. Many students of change believe that development is the process by which continuous increases in a system's efficiency produce the conditions which result in general 'upliftment'. It is that process that is concerned with the improvement of man's living conditions. On the similar note, Anyebe (2014) states that development is used to refer to the total transformation of a system. Thus when used to describe a nation, describes the transformation of the various aspects of the life of a nation. In fact, development implies a progression from a lower and often undesirable state to high and preferred one. Nnoli (as cited in Obiagbaoso, 2011), corroborates that development is a process of progression. It is man's unending quest to conquer his natural environment using his creative endowment in order to fashion tools and create other things necessary for good living. The above definitions see development as a continuum such that the developing and developed nations are all in the process of development. What is central to these views is improvement on human conditions. Rogers (as cited in Obiagbaoso, 2011) establishes that development is a type of social change in which new ideas are introduced into a social system in order to produce a high per capita income and levels of living through more modern production methods and improved social organization. Generally, development process is understood to be characterized by the following objectives:

To increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health and protection. To raise standard of living in addition to higher income, provision of more jobs, better education and greater attention to cultural and humanistic values all of which will serve no only to enhance material well-being but also to generate greater individuals and national self-esteem. In conclusion therefore, development may be defined as "a multi-dimensional process involving changes in structure both social and spatial, attitude and institutional as well as acceleration of economic growth, reduction of inequality and eradication of absolute poverty.

Contrarily, Ishola (2001), notes that development is an increase in real output accompanied by changes in the economic structure and institutions i.e. improvement in the social, political and economic lives of the people of a country. Rodney (1972), agrees that development is a many sided process. At the level of the individual, it implies increase skill and capacity, greater freedom, creativity, self-discipline, responsibility and material well-being. Todaro (2009), advocates that development is a multidimensional process involving the reorganization and reorientation of the entire economic and social system. This involves, in addition to improvement of income and output, radical changes in institutional, social and administrative structures as well as in popular attitudes, customs and beliefs. The above definitions viewed development as multifaceted and multidimensional process which includes; social, political, economic and cultural spheres of man's existence. Thus, development goes beyond economic indicators. The main contention of Todaro (2009) is that development is both a physical process and a state of the mind. The transformation of institution is one aspect; the other aspect is that the thinking of the people change.



#### Development Research

The importance of modern technology, which is defined as the process of making things, cannot be overemphasized. In fact it is generally accepted that the state of technological development of a nation determines its rate of development. Countries with advanced modern technology such as the USA, Western Europe, USSR and Japan are said to be developed while countries with little or no modern technology are referred to as underdeveloped or developing. This indicates that modern technology is the accepted measure of development. It will be extremely difficult for any society to survive in a technological vacuum. As the needs of the society change, it strives to develop the technology to meet these needs (Ishaku & Bajoga, 1976). The importance of research to national development cannot be gainsaid. Through basic and applied research, universities are expected to contribute to the improvement of the quality of life and to social and technological change. From a global perspective, economic and social developments are increasingly driven by the advancement and application of knowledge. Education in general and higher education in particular, is fundamental to the construction of a knowledge economy and society in all nations (World Bank, 1999). There is no doubt that the technology is the engine that oils the wheel of development. The higher the technology of a nation, the more develop that country becomes. Nations progress from traditionalism to modernism through revolution in science and technology which are results of research. As corollary to this, importance of development research cannot be overemphasized. Evidential to this is the nations with low technology are the least developed over the world.

Research and Development (R & D) has become the most enduring and effective means of boosting sustainable economic development and re-enforcing competitiveness in the face of rapid growth taking place between industries, countries and peoples in the world (Sabo, 2005). Without quality research, therefore, a country cannot make substantial economic and industrial progress. This is why in developed countries; research is accorded its rightful place through good policies and fairly adequate funding. In contrast, many developing countries have neither articulated a development strategy linking knowledge to economic growth nor built up their capacity to do so. Nigeria has only 15 scientists and engineers engaged in research and development per million persons. This compares with 168 in Brazil, 459 in China, 158 in India and 4,103 in the United States (World Bank, 2002). Research does not only bring economic development as emphasized by Sabo (2005) it ignites overall societal development, being it political, social, economic among other aspects of development. One cannot agree more with the World Bank's assertion on just the insignificant number of Nigerians that engage in research and development. Underdevelopment that grips the country to its knee is a graphic illustration of nonexistence of development research in the country. Sad enough, research in Nigeria is not given its rightful position the country's universities. In addition, the involvement of industry in funding research has been very insignificant. In fact, support from industry is most often limited to endowment of professorial chairs in certain disciplines, construction of office or hostel blocks and some donations of laboratory equipment.... The Association of Vice – Chancellors of Nigerian Universities (AVCNU) in the recent (2007 Annual



Conference observed that there is near collapse of research and development initiatives to poor or ill-equipped laboratory and library facilities (Shehu, 2013).

## Universities and Development Research

Any university aspiring to become world-class must place research at the highest pedestal (Bamiro, 2018). Research has become an integral part of any serious university. This is why American universities are riding the waves at the moment. Sadly, most of Nigerian universities have lost touch with reality (Agbo, 2018a). Teaching and research are at the core of what a university is all about. Anything that hampers any of these two is an enemy of university education. Nigerian universities must rededicate themselves to promoting teaching and fostering research. The inability of most Nigerian professors to win national and international awards is an eloquent testimony to the low level of research being carried out in our universities. For instance, in 2007, the Nigeria Liquefied Natural Gas (NLNG) Science Prize was not awarded to anybody due to lack of a winning research (Akunyili, 2010). In one of my discussions with parents " I discover that most of the content of courses offered in our universities today is not in tune with current realities. I even learnt that some lecturers still use notes developed years ago to teach students in this age and time. I also painfully discovered that a good percentage of them have stopped researching for various reasons." he told me. (Agbo, 2018b). Knowledge has become the most important factor for economic development is the 21st century. Through its capacity to augment productivity, it increasingly constitutes the foundation of a country's competitive advantage. In the developed nations investment in the intangibles that make up the knowledge base of a country (eg., research and development, higher education, computer software, patents etc) equals perhaps exceeds investments in physical equipment (Agbo, 2018b).

Agbo (2018b) further establishes that when the "Asian tigers" bursts forth industrially in the 1990s, their 'economic miracle' was linked to deliberate and substantial prior investment in human resources. Their university systems were overhauled; extant intellectual property protection laws were reviewed. As expected, this led to the historical evolution of industrial R & D and the mutually beneficial partnership between private industries, universities and government in R & D. Contrarily, Musa (2018) laments that recently the World Bank has ranked Nigeria 152nd out 15y countries captured in its maiden Human Development Index, HDI. World Bank President, Dr. Jim Yong Kim was quoted to have said that the education outcomes in Nigeria are very poor. The universality of universities indicates that system has shared characteristics across the globe. The mandate of university system globally is teaching, community service and research as establishes by Phillips (1991) that "the primary functions of the contemporary university include the triad of teaching, research, and service." The criteria for the ranking rally behind the extent to which universities are able to realise this mandates effectively. Infrastructural deficit that is pervasive in Nigerian universities affects quality of teaching and research subsequent upon that, is the low raking in the list of best universities across the globe.



Tonukari (2019) differently observes that universities and government have generously provided laboratories, equipment and chemicals for Nigerian scientists. Ironically, how many real inventions or products from our laboratories or patented by Nigerian scientists can you find in the market? Besides, many people in academia have received grants to conduct research; where are the benefits of results and findings to our sponsor which is the Nigerian government and its people? Apparently, the research findings are not addressing socio economic challenges. There is every need for our universities to serve as sources of innovation, skilled personnel, attractors of business investment and agents of social justice and mobility. It is time many Nigerian scientists move away from researching and publishing for the sake of promotion and pride in large numbers of publications. It is time for us to implement the results of research. It is time to convert scientific findings into industrial processes and products. National economic growth relies on education, innovation and entrepreneurship. Therefore, our research should be geared to support the development, production and commercialization of new products and processes. It is necessary for us retrace our steps and focus on research that will enrich our country and provide jobs and wealth for its citizens (Tonukari, 2019).

# METHODOLOGY

The study used both quantitative and qualitative method of data collection. It adopted its questionnaire from Igbinedion (2012) who conducted his study on corporate social responsibilities of the educational tertiary institution in Delta South Senatorial district. Interview was also conducted with academic and managerial staff of the University.

#### Data cleaning and screening

The data screening set was conducted through an examination of basic descriptive statistics and frequency distributions. Values that were found to be out of range or improperly coded were detected.

#### Factor Analysis

A five-point Likert scale (ranging from SA=Strongly; A=Agree; N=Neutral; D=Disagree; SD=Strongly Disagree) was used to measure relationship among the constructs. Factor analysis was used to identify the structure of the factors that account for the relationship among leader, ivory tower and development research.

#### Simple Regression

Simple Regression Analysis was used to test the variables. The goal of regression analysis is to obtain estimates of the unknown parameters which indicate how a change in one of the independent variables affects the values of dependent variables.

## Method of Data Analysis

Social Sciences (SPSS) software version 20 was used for descriptive and simple regression in quantitative data analysis. While concurrent explanatory strategy was used to analyse the qualitative data.





## Exploratory Factor Analysis

This study used Exploratory Factor Analysis (EFA) to determine the common factors that influence each construct, because it facilitates the covariance of the constructs (Kahn, 2006). The items with loading factor less than 0.30 were removed from the process.

### Table: 1. 1 Management

Measure	Mean	SD	Factor Loading
IBB University has sustainable sources of funding	2.86	1.08	0.7004(1)
The University has viable Internally Generated	3.12	1.17	0.7067(1)
Revenue (IGR)			
IBB Management signed Memorandum of	2.86	1.26	-
Understandings (MoU) on researchers with			
international and national agencies.			
Zonal politics in the State affects the growth of IBB	4.26	1.09	-
University			

Source: Field Survey, 2019 Note: Values in parentheses denote the factor loading rate. From the table above, two factors loaded while the other two failed to load.

#### Table: 1. 2 Research Development

Measure	Mean	SD	Factor Loading
There are enough infrastructural and laboratory	2.43	1.13	0.7079(1)
facilities in the University			
The University has enough teaching staff across all	2.11	1.04	0.7101(1)
the departments			
IBB University has conducted researches that	3.90	0.97	0.6028(2)
address socio economic problems in Niger State			
There are work-in-progress and viable researches	4.08	0.85	0.5257(2)
carrying out by the University.			
IBB University has a very functional research centre	3.85	1.13	0.5215(2)

Source: Field Survey, 2019 Note: Values in parentheses denote the factor loading rate. The above table shows that all factors were loaded. That is, they are valid enough to represent the relationship between the University and research development.

# **RESULT OF SIMPLE REGRESSION TEST**

The following tables are the simple regression tests that show the significant level or otherwise of the relationship between different constructs.

#### Table: 1. 3 IBB University and Research Development

Variable	Coefficient		
Management	0.1773 * * *		
	(0.6448)		

Source: Field Survey, 2019 Note: Standard error in parenthesis, \* denotes significance at 10%



The result in table 1.3 indicates a positive and significant relationship between IBB University and development research at 1% level of significance. That is, the University contributes about 17.75% to the development research. This aligns with the responses conducted with some academic staff and Director Centre for Applied Science and Technology (CASTER). The contribution here is in the provision of enabling environment; laboratory and other facilities, administrative skill as well as human resources needed for research development.

# DISCUSSION OF FINDINGS

The research finding shows that there is a positive and significant relationship between University and research development. The respondents confirmed that the University, through TETFund intervention, is achieving great fist in the provision of facilities, equipments and other wherewithal for research development. So far, the University has successfully conducted researches on Organic Agricultural Development and Bida Basin Hydrocarbon prospection (oil and gas research) by Prof. G. N. Obaje. The researcher discovered crude deposit at commercial quantity in Bida Basin. This portends great economic advantage for the State. According to interviewees' responses, the following are among the ongoing researches in the University with great potential benefits for the State:

- Leveraging of Tourism as a Potential for Enhancing Internally Generated Revenue (IGR) in Niger State: A Proposed Policy Document – by Dr. Bashir Danlami Sarkin Daji, Department of Business Administration;
- Recycling Agro waste Nutrients to make Insect protein and Oil for Sustainable Production of Livestock Feed in Nigeria – Dr. Solomon Danjuma, Crop Science;
- Application of Bio=technology to Develop Tropical Sugar Beet (Beta Vulgaris) Variety for Increased Sugar and Ethanol Production in Nigeria – Dr. Mohammed Aliyu Paiko, Bio- Chemistry.
- Ecological Crises in Imaginative Arts by Prof. Emmanuel Egya Sule, English and Linguistic.

Organically Modified Nano-Clay and Clay Nano – Composite as Novel Antiseptics for Adsorption of some Mycotoxins in Agricultural Commodities – by Prof. Niranjan Kumar, Crop Production.

## Political Implication of this Study

Modernization theory that this study adopted as a tool of analysis posits that prominent underdevelopment in the Third World nations was caused by traditionalism. The theory conditions development in this part of the World to imbibing of western ways of doing things – scientism. The fact is the most developed nations have the best universities where science and technology thrive. Their problems are solved by these universities. There is stark connection between society and universities. The budged to California University, USA is bigger than the entire budget to all Nigerian universities. It is undisputable that there is connection between efficacy of universities and societal development. The nature of Nigerian political economy is unfavourable to strengthening of universities to fully perform their expected role in nation building. Development is what



Niger seeks to achieve by the establishment of IBB University, its financing is therefore essential and fundamental. It is a common fact that budgetary allocation to education sector in Niger has been grossly inadequate. The dimension of Niger State political economy of resource allocation has a decisive influence in the potency of the University to undertake development research, subsequently the growth and development of the State. Exercise of power and politics of resource allocation to various sectors of the economy in the State is affecting the statutory allocation to IBB University. The University deserves better attention from the elected executive heads. Development and underdevelopment are functions of politics. Equally, potency of IBB University to conduct research development is much enabled by the quality of leadership. There is dire need for political will in Niger State to put education at its top priority. According to minimum bench mark given by UNESCO, 27% of budgetary allocation should go to education. Poor attention renders the structure of education feeble and fragile with little capacity to experiment societal problems and prescribing viable solutions to it.

## CONCLUSION

The establishment of IBB University was part of efforts to remake the image of Niger State. One of the philosophies of the University is to produce a pool of well-trained individuals endowed with the capacity for transforming human and material resources of the State and the Nation at large for development. Put differently, to relate activities of the University to the social and economic needs of the people of Niger State in particular and Nigeria in general through research development. This study is being conducted at the time that most of the component states in Nigeria notably Niger State are faced with socio economic and political impasse. The University ought to have been the solution centre to Niger State perennial and lingering problems. So far, in reality, our problems as a state wax stronger. The study thus, concludes that there is low capacity among the researchers to come up with solution driven researches as socio – economic base of the State remains statics notwithstanding the establishment of the University. The study resolves that there was practical disconnection between IBB University and the society -Niger State. Until the University proves itself to be solver of societal problems, the aim for its establishment would be betrayed. On one hand, the University has not proven itself as solution centre to Niger State socio economic and political problems. On the other hand, successive political leadership did not look unto the University as solver of its problems.

## RECOMMENDATIONS

At the backdrop of the research findings, the following recommendations are made to reposition IBB University for greater capacity in research development. First, Niger State government should significantly improve on its funding of IBB University particularly in the building of capital projects and provision of infrastructural facilities. Research development is dependent on enabling environment, as such there should be upward review of budgetary allocation to the University. Second, being a state-owned university, there is every need for the State government to task the University on addressing the socio – economic and political challenges that bedevil the State. The University itself



needs to be focused on solving prominent problems in the State. IBB University should serve as a consultant to the State. Various academic departments should be tasked with fixing societal problems that is relevant to it. That will connect the State to University. Third, the University dons and researchers should not be exclusively inspired by publishing for promotion but by passion to conduct development - oriented researches; researches that address societal ill and challenges.

# REFRENCES

Agbo, A. (2018a, August 9) The other side of education tourism. In The Nation, p 24.

- Agbo, A. (2018b, September 6) How do we rejig our universities? In The Nation, p 24.
- Ali, A. (2010). The role of universities and open and distance learning being a text delivered at the 6<sup>th</sup> Pan Commonwealth forum on open learning", Developing the community, India,24-28.
- Anyebe, A. A. (2014). Nigerian university and its mandate in a changing world. Journal of Social Sciences and Humanity. Vol. 9, No. 2. Universiti Kebangscan, Malaysia.
- Bamiro, O. A. (2018). 2<sup>nd</sup> combined convocation lecture on "state university funding in a depressed economy: implications for global competitiveness". Ibrahim Badamasi Babangida University, Lapai.
- Eboh, E. C. (2009). Social and economic research: Principles and Methods. Enugu; Institute for Applied Economic.
- George, D. & Mallery P. (2003) Validity and reliability report. <u>www.newteachercenter.org</u>
- Ishaku, B. G. & Bajoga, B. G. (1976). Priorities in the development of technology. In Kumo, S. & Aliyu, B. (Eds) Research and public policy in Nigeria. Institute Conference Report Series, ABU Zaria.
- Jonathan, Y. T. (2004). The substance of political economy. Wais Printing Press, 16 Potato Market Street, Jos, Plateau State, Nigeria. Publications (p) Ltd.
- Kahn, J. H. (2006) Exploratory factor analysis: Implication for theory. https://www.academia.edu>exploratoryfactoranalysis.com
- Marga, A. (2009). *Chalenges, Values and Vision: The University of the 21st Century.* Cluj- Napoca: Presa Universitară Clujeană.
- Musa, I. M. (2018, October 18) Nigeria and human development index. In Daily Trust, p 43.
- Niworu, S. M. (2007). Man and his economic activities: a political economy paradigm. Elicola Printing Press No 1 Tunga Roundabout, Shiroro Hotel Road, Minna, Niger State.
- NUC (2018). Self-Study Form for the Accreditation of Degree Programmes Offered in Nigerian Universities.
- Obiagbaoso, G. C. (2011). Themes and perspectives on social and economic development in Nigeria. Pearl Corporate Ventures Ltd. Plot 7/9 Dutse Alhaji Kubwa Abuja.
- Ogundiya, I. S. & Kura, S. Y. B. (2013) Philosophical Worldviews and the Factors Affecting Research. In Abdulrahman, D. A., Ogundiya, I. S., & Kura, S. Y. B. (Eds). Research Methodology & Grantsmanship . Foludex Press Limited, Ibadan.



- Phillips, D. (1991). New alliances for policy and the conduct of research and education. International Journal of Technology Management, 6, 478–487.
- Sekaran, U. & Bougie, R. (2013) (6<sup>th</sup> ed) Research methods for business: a skill-building approach. John Wiley & Sons Ltd.
- Shehu, R. A. (2013). Research funding, grant seeking and funding opportunities. In Abdulrahman, D. A., Ogundiya, I. S. & Kura, S. Y. B. (eds). Research Methodology & Grantsmanship. Publication of Usmanu Danfodiyo University, Sokoto, Nigeria.
- Tonukari, N. (2019, October, 18) Biotechnology and national economic security. In The Nation, p 19.
- United Nations Educational, Scientific and Cultural Organization. (2009). *Educational statistics.* Paris: UNESCO Institute of Statistics.
- World Bank (2002). World development indicators, Washington, DC: the World Bank, 212pp.
- World Bank (1999). World development report: knowledge for development, Washington, DC: the World Bank, 251pp.