

IMPACT OF GOOD GOVERNANCE AND INSECURITY ON SCIENCE EDUCATION IN NIGERIA: THE WAY FORWARD

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Abstract

Science education being the bedrock of technological advancement is a necessary requirement in the educational system of every nation including Nigeria. This paper reviewed good governance and insecurity in Nigeria with the objective of examining their impact on Science education in Nigeria as no meaning full advance can be made in any nation riddled with insecurity. Overviews of concepts such as Science, Science education, good governance and insecurity were provided. Key indicators of good governance such as; resource management, accountability, participatory decision making and resultant effect of bad governance such as agitations, ethnic alignment, anger, infrastructural decay, frustration, corruption and poverty were x-rayed. Insecurity in Nigeria and its impact on Science education and education on the whole were discussed and some of the possible root causes such as corruption. The challenges posed by insecurity on Science education such as delay in human and infrastructural development is one of the leading causes of underdevelopment of a nation. It was recommended that government should ensure effective management of resources and equitable distribution to the various federating units. Participatory decision making should be observed so that the different stakeholders will be included in the decision making of the country also all agencies of government should show a high level of accountability as this will go a long way in utilization of available resources. Security operatives should be trained and retrained in order for them to be conversant with current insecurity tackling tactics.

Keywords: Education, Science education, good governance, insecurity, corruption.

Education, Science and Science education

Education according to Taiwo (2014) is a lifelong process by which an individual develop all useful capabilities and become useful to himself and others, as well as becoming able to contribute to the development of the society in which he belongs. Bello and Ayilara, (2019), described it as the process of receiving and giving planned instructions in educational institutions. Origin of education dates back

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to the pre-historic era where children were taught by adults in relevant skills and knowledge using oral and imitation means only. This method of training in education has evolved from oral transmission to many interdisciplinary disciplines which science is one of.

Science according to Ayo, (2003), is a specialized body of knowledge involved with the study of nature in which certain peculiar methods are used and the acquired knowledge is presented in form of concepts, theories and laws. It is also said to be an attempt by human beings to organize their experiences about nature into meaningful system of explanations (Ogunniyi, 1986). Science has helped broaden the horizon of man, improving his environment and helping him understand the workings of nature around him as it has to do with mental processes in reasoning, problem solving, remembering and evaluation.

Science education refers to the teaching and learning of science. Just like education itself, historically, science education dates back to the prehistoric era of informal education, when it was in the form of storytelling and imitation, (Aina and Adedo, 2013). During the colonial era, the colonial masters brought in formal education for the purpose of trade and religion with the aim of training clerks for the interpretation of their language, administrative and commercial activities. Thus Okoro, (2011) described the British colonial education as one that inculcated into Nigerians, foreign ideologies, cultures and values. The introduction of science into the education system was as a general science whose curriculum was designed to reflect the desires and aspirations of the colonial government and not the needs and aspirations of the people, (Sulaiman, 2012). Kola et al, (2017) noted that the curriculum content of the general science was foreign to both Nigerian students and teachers as a result of its heavy dependence on British curriculum and major examples were based on phenomena of relevance to the British environment. This resulted to memorization and rote learning as the major learning skills as students read directly from textbooks. No meaningful science was taught in Nigerian schools during this period, (Adeyemo, 2010). Things improved after independence when curriculum conferences and workshops were held leading to the production of primary and secondary school science curriculum. A new dawn in science education was heralded by the inauguration of Science Teachers Association of Nigeria (STAN) and West African Examination Council (WAEC) in 1957 and 1952 respectively. The collaboration between STAN, CESAC (Comparative Education Study and Adaptation Center) and ministry of education led to the introduction of Biology, Chemistry and Physics into the Nigerian school system, (Aina and Adedo, 2013). Nigerian Secondary School Science Project (NSSSP) was one of the frontline efforts by CESAC to develop science education in Nigeria and in 1978, it was trial tested with the first revised edition published in 1980 and integrated into the secondary school system, (Awolola, 2004). NSSSP was developed for Biology, Chemistry and Physics, which are the foundations of science education in schools in Nigeria currently. Attempts were made to produce qualified science teachers at all levels of education, leading to the establishment of teacher training institutions. Science education and education in general assist individuals formally through proper directions and guidance to develop their full capacities for their own benefits and that of the society, (Bello and Ayilara, 2012). This can only be possible in a secured environment where there's an efficient management of resources.

Thus this review critically examined the impact of good governance and insecurity on science education in Nigeria.

Security

Security of a nation is paramount to its existence, as the major characteristic of nationhood is the ability to provide security for her citizens and to defend her sovereignty and territorial integrity, (Udah, 2012). In a well secured nation, there is free movement, interaction and integration of citizens across its borders without fear of danger. A nation that is not secured is plagued by insecurity. Insecurity is defined as a breach of peace and security, whether religious, ethno-religious, civil, social, economic and political that has contributed to reoccurring conflicts, (Eme, 2011). Nigeria has witnessed several forms of breach of peace and conflicts which resulted in a civil war and is currently grasping with spates of conflicts from various interest groups. From Boko Haram militants, kidnapping and terrorizing in the northern region to the indigenous people of Biafra in the south eastern region struggling for actualization and self-determination, the bandits in majority of the highways in the northern states terrorizing, killing and maiming travellers along those routes and the Fulani cattle herders making food production difficult for farmers in the southern regions. Nigeria has had a fair of insecurity and citizen's unrest such as the 2020 EndSARS movement. Currently, security reports are not palatable as incessant reports of kidnapping; killings by unknown gunmen and arson are rampant. This has affected education in many parts of the north as entire schools are known to be closed down after a kidnapping episode.

There are several factors that can cause insecurity and in the case of Nigeria, a lot more complicated because of the multi ethnic structure of the nation. Many ethnic groups are sometimes displaced from their ancestral settlements leading to conflicts. Many researchers attribute the spates of insecurity in the country to the multi-dimensional ethnic structure, (Okehe, 2011; Eme, 2012; Saminu, 2014), enumerated some impacts of insecurity such as;

- Social dislocation and population displacement.
 - Social tensions and the new pattern of settlement whereby the members of an ethnic group moves to a particular area.
 - The current plan by the federal government to introduce cattle colonies across the thirty six states, the invasion of herders in areas that are not their own, thereby leading to hostilities between them and the indigenes.
- This situation is worrisome as it doesn't help education of the citizenry in any way but further deteriorates education facilities and infrastructures available.

Governance

Governance is the manner in which power is exercised in a country with the view of utilizing the nation's resources for its socio-economic development for the betterment of individuals, households and the nation at large. Kadir (2019) defined governance as the process by which government makes and implements policy decisions that influence the finance and delivery of services to citizens of a nation. Ogundiya (2010), defined governance as the way government of nations exercise power for the management and distribution of a country's social and economic resources. Governance also refers to the processes through which a State's affairs are managed effectively in the interest of the governed and those governing it. These

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areas of interest includes; public accountability, fiscal responsibility, administrative and political responsibility responsiveness and transparency (Kola, Gana and Olasumbo, 2017). The concept governance has a wide scope which includes the day-to-day activities of the government ranging from political, economic and administrative. From the numerous definitions of governance, it can be deduced that good governance is in place when these activities of government are fully beneficial to its citizens. It is integral to economic growth, eradication of poverty and hunger, quality education and sustainable development, (Kola et al, 2017). When there is good governance in a country, resources are efficiently managed for the development of the country and there's a high level of responsiveness of government to the needs of its citizens, (Oteghile, et al 2014).

Kadir, (2019) defined good governance as an act by which political processes translates into public policies that aligns to the will of the people, thereby establishing rules that will enhance efficient and effective service delivery to all citizens of the country. Odock, (2006) described good governance as a system of government based on good leadership, respect for the rule of law and due processes as well as the accountability of the political leadership to the electorate and transparency in the operations of government. A closer look at all the definitions by several scholars shows that all agrees to the fact that good governance has to do with accountability, transparency and efficient management of resources for the betterment of the society. Bello and Ayilara, (2019) believe that good governance provide growth and structural change needed for the development of a country. Structural changes such as educational facilities, military and parliamentary development and judiciary will enhance improved security and governance. Access to knowledge through education is improved, respect to human rights are observed and enforced through the judiciary.

Key indicators of good governance

The educational system is a microcosm of the larger society and hence the different major indicators of good governance needed in a country are also a reflection of what is needed in the educational sector. Some of these include;

1. Proper resource management

Science education which involves applying scientific methods of inquiry, observation and experimentation to education helps in improving man's knowledge of his environment and how to properly apply it for the betterment of society. It is a known fact that this current era is a technological era and the economic, political and social development of a nation is premised on the scientific and technological advancement it makes. Thus science education is a necessary tool in the technological development of a nation because there's no technological advancement without scientific laws, theories and concepts. But there cannot be a functional science education where country's resources and power are not well utilized for the citizens, (Aina et al 2017). According to Florence et al(2015), good governance has to do with the use of states resources in an accountable way and to promote the wellbeing of the country. Hence, when the resources of a country are not well managed, the welfare and education of the citizens are relegated to the background. In Nigeria, the resources of the country are not well utilized as successive government keep indicting its predecessors of fund misappropriation but barely convict any even though assets and funds are seized from these individuals, yet nothing is further made public on when and where the

funds are returned and in which area of the economy it is plowed back into. According to National Association of Nigeria Students (NANS), Nigerian's 2021 education budget was the worse in a decade. 6.3% of 2021 budget was earmarked for education being 742.3 billion naira out of the 11.7 trillion budget. 615.1 billion was proposed for recurrent expenditure, covering personnel and overhead cost while 127.3 billion is for capital expenditure, (Vanguard, 2021). This is the lowest allocation for education since 2011 and about 40% below international education allocation bench mark, (UNESCO, 2015). This is almost close to estimated loot recovered from a former foreign minister. This deficit in education funding can cripple science education as modern instruments and facilities needed for effective teaching and learning cannot be easily procured thereby hampering learning.

Hence good governance in education is concerned with how a school system generates funds, manages and expends it for the proper management of the school system. A good educational management skill is needed. Mishra(2009), explained educational management as the process of utilizing available resources in such a way as to promote efficient and effective development of human qualities.

2. Accountability

According to Kadir (2019), accountability is a process of expecting each member of an organization to answer to someone for doing specific tasks according to specific plans. A proper functioning of any country needs people to be accountable for their actions. Duties are streamlined and assigned to different members of the society. This enables proper monitoring and sanctions when the said task remains undone or improperly done. Accountability is a key area of good governance and has possible impact on the education sector. According to Okunamiri and Ajoku (2010), accountability demands sound management decisions, policies, constant supervision and monitoring of education system and requires adequate record keeping, periodic evaluation of performance as well as feedback to stakeholders in the organization, (Kadir, 2019). Accountability will help ascertain the extent of the realization of the goals and objectives of science education. This will be possible through appropriate and timely monitoring of educational activities in the various institutions. For instance, the tertiary education trust fund (TETFUND), is an agency of government that is empowered towards funding of trainings, research and infrastructural development in tertiary institutions. Without proper accountability, people in tertiary sector may access fund for study and not utilize it for the appropriate things. Institutions may not utilize funds earmarked for infrastructural development if TETFUND officials are not effectively monitoring them. This will therefore lead to infrastructural decay, lack of improvement in the teaching skills of teachers who refused to utilize the funds meant for trainings and workshops as they will not be aware of current trends in their area of interest.

3. Participatory decision making

According to Israr and Muhammad (2014), who investigated the effective management of education through good governance in Pakistan, a relationship was found between transparency and management of higher education. Transparency in administration can be implemented when a participatory decision making structure is in place. In this type of structure, everyone has a say in the decision making process of the institution either directly or indirectly or through an intermediate institution

that may represent their opinion. The inclusion of student's union governments and parent/teachers associations are instances where an intermediate institutions can participate in decision making of an institution. This will help articulate the needs of the students and protect their interest and also serve as a go between in times of crisis.

Impact of good governance and insecurity on science education

Good governance impacts major areas in the education sector such as;

1. **Training and re-training of teachers:** when resources are not well managed, teacher training and re-training becomes an issue. Science teachers training require more funds than training of teachers in the Arts and Humanities. This is because of the need for practical approach to teaching which is cost effective. In Nigeria, many secondary schools do not have a structure for practical's not to talk of an equipped laboratory. Thus students are taught in an abstract form instead of scientifically. The lack of experimentation makes it difficult for the students to grasp the difficult concepts in science as teacher training was not adequate. Aina et al (2017), stated that most teachers lack adequate pedagogical content knowledge for science teaching and can therefore not adequately pass across knowledge to the students. Thus science is perceived as difficult by students who shy away from science subjects at secondary level and invariably leads to a reduction of students offering science-based courses at the university level. This reduction will affect our workforce output as less qualified science professionals will be produced at the university level. Experts believe that the current curriculum content in science subjects are no longer relevant as they have become obsolete given the current scientific and technological advancement globally and hence cannot meet the needs of the students presently. The "chalk and talk" teaching strategy is still very much in use even in the face of current information and communications technology tools obtainable in the education sector of developed nations, teachers still teach with methods and materials learned and acquired decades ago, thereby producing students that are incapable of competing with their contemporaries outside the country. Consequently, there is need for the teachers' knowledge to be updated through regular attendance of conferences and workshops.

2. **Skilled workforce migration**

When resources are not well managed, funds allocated to various areas of government are diverted and embezzled leading to lack in some sectors. Part of this can lead to owing professionals their relevant remunerations and allowances. In Nigeria, incessant strikes by resident doctors and university lecturers are usually as a result of non-payment of one allowance or the other. This leads to their massive migration to countries that offer them better payment and welfare packages, such as Europe and America. The huge brain drain is alarming as professionals of worth are seen going out and even those who are still in training are busy looking for opportunities to migrate. In a country where an average law marker with possibly a secondary school certificate earns five times more than a professor in the university, little wonder the mass exodus. Coupled with the high level of corruption in the country, equitable resource distribution is a mirage.

3. **Infrastructure**

Infrastructural development is important as one of the cardinal needs of science education is a functional laboratory. It is also important that lecturers' office

accommodations are available, as this will give them a sense of wellbeing and working in a relaxed environment. This is not as it should be as many lecturers in many institutions of higher learning do not have a conducive working environment, as much as six lecturers can be seen occupying a 12x12 office space and thus do not regularly stay in the office as a result of the crowded environment. This impacts on science education as students will not have opportunity to fully interact with the lecturers who should guide as well as mentor them.

4. Research

Infrastructural development is a necessity in science education as instruments and equipment are steadily being upgraded globally from analogue to digital form. It is not a strange sight to see outdated equipment decorating the laboratories of several of our institutions of higher learning. Most of these equipment do not offer accuracy and precision in the measurement of relevant parameters. This makes it difficult for much relevant studies and research to be carried out as the researcher will first consider the level of out of pocket expenses before embarking on any research. Paucity of funds renders science teaching difficult as many institutions do not have the relevant reagents and chemicals necessary for scientific studies. Most of these institutions operate by tasking student for the provision of the much needed materials, which invariably increases the cost of studying science in our institutions. Otoghile, et al (2014) noted that because of corruption, resources from the national treasury meant for research are in the hands of few individuals who are politically powerful.

Improving Science education through good governance

From the foregoing, it can be seen that insecurity challenges are evident that good governance is not in operation as most of the challenges can be resolved through many agencies of a functional government. The judiciary is to prosecute and convict offenders; the parliament to make laws and the executive to ensure equitable management of the affairs of state. Strategies for improving science education lies within the three arms of government, through improvement in governance and security, some of these strategies include;

1. Improved curriculum content to reflect current innovations in technology which can help the youths to be self-reliant after study.
2. The improved curriculum content will reduce the high incidence of unemployment, enhancing the security outlook of the country as more youths will be off the streets. It is said that an idle mind is the devils workshop. This is one of the main reasons of the security breakdown because many young people are not economically engaged. This agrees with Saminu, (2014), who stated that a person who learns to use good skills early enough will be unwilling to allow himself used as a tool for destruction.
3. Creation of an enabling environment that will attract the interest of the youths. China is known as a world power because of its high technological breakthrough. Many devices, gadgets and electronics emanate from this country because of the enabling environment. The success of science education can be measured by the corresponding technological innovation seen. The current government has been known to pass policies which are not technologically friendly, such as the current twitter ban and the clampdown on cryptocurrency trading, which no other country has out rightly banned but actively looking for ways to regulate as

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well as adopt for their own gain. It is noteworthy that majority of people affected by these policies are youths, thereby further escalating the unemployment rate. Policies should be people friendly and tailored towards embracing the current scientific and technological trend worldwide. This will encourage young people into the field of science education.

Recommendations

In order to minimize these impacts, both the government and education stakeholders should team up for the benefit of the citizens and education as a whole. Curriculum content review should be put in place to ensure relevant areas are taken into consideration,

Government should ensure effective management of resources and equitable distribution to the various federating units. Participatory decision making should be observed so that the different stakeholders will be included in the decision making of the country, also all agencies of government should show a high level of accountability as this will go a long way in utilization of available resources. Government should increase security agents and introduce better welfare package to ensure maximum professionalism in the discharge of their duties, available security operatives should be trained and retrained in order for them to be conversant with current insecurity tackling tactics.

References

- Adeyemo, S.A. (2010). Teaching / learning of Physics in Nigerian schools: The curriculum transformation issues, problems and prospects. *International Journal of Technology Education, vol. No. 1, pp 99-111.*
- Aina, J.K and Adedo, G.A. (2013). Correlation between continuous assessment (CA) and students performance in Physics. *Journal of Education and Practice, No.4, pp6-9*
- Awolola, J.B. (2004). *Physics Methodology, Book 1.* Nathadex publication, Ilorin.
- Ayo, F. (2003). *Basic Principles of Biology.* Ilorin: Decency Printer
- Bello, Z.A and Ayilara, T.T. (2019). The role of science education in governance, peace education and national security in Nigeria. *International Journal of Scientific Research in Educational Studies and Social Development, vol.3 No.1, Ie-ISSN:2579-1060.*
- Eme, I.O. (2009). Ethno-religious identities in Nigeria: Implications for good governance in Nigeria: A paper submitted to the editor in chief of a book project on Islam and governance in Nigeria.

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- Florence, A.C., Osawe, O.C and Igbokwe-Ibeto, C.J. (2015). The civil service and democratic governance in Nigeria: Issues, prospects and new hopes. *Journal of Research and Development*, vol.2 No. 8, pp1-13.
- Israi, A. and Mohammed, I. (2014). Improving higher educational management through good governance. *Journal of Education and Practice*. 23(5), 167-169.
- Kadir, A.N.J. (2019). Good governance issues in education system and management of Secondary schools in Kwara State Nigeria. *E Journal of Education Policy*. <http://nau.edu/COE/eJournal/>
- Kola, A.J., Gana, N.N. and Olasumbo, I.O. (2017). “The lack of good governance in Nigeria and its impact on functional science education”. *International Journal of Development and Sustainability*, vol. 6 No. 9, pp.1036-1047.
- Mishra, R.C. (2008). *Encyclopedia of educational administration: Theory of educational administration*. (vol. iii). New Delhi. A.P.N. publishers.
- Odock, C.N. (2006). *Democracy and good governance*. Lagos: NOUN. Lagos.
- Ogundiya, I, S. (2010). Democracy and good governance: Nigeria;s dilemma: *African Journal of Political Science and International relations*, vol.4 No.6, pp201-208
- Ogunniyi, M.B. (1986). *Teaching Science in Africa*. Ibadan, Salami media Nigeria Ltd.
- Okoro, N.P. (2011). Comparative analysis of Nigeria education system. *International Journal of Business and Social Science*, vol.2 . No.21, pp234-238.
- Okunamiri, P.O. and Ajoku, M,U. (2010). *Accountability in education. Basic text on educational management*. I.L Anuka, P.O. Okunamiri and R.N.O. Ogbonna (Eds.). Imo State EeHech Versatile publisher.
- Otoghile, A., Igbafe, A. A. and Aghontaen, E.S. (2014). The quest for good governance in

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Nigeria. A survey of people's perception in Benin City. *Research in Humanities and Social Sciences*, vol. 4. No. 28. Pp.179-188.

Sulaiman, F. R. (2012). Internationalization in education: The British colonial policies on education in Nigeria1886-1926. *Journal of Sociological Research*, vol. 3 No.2. pp.84-101.

Udah, A. J. (2012). Security: Is Nigeria safe? A lecture delivered by the Inspector general of police, represented by the AIG zone 2 headquarters Lagos at the Nigerian-Swedish chamber of commerce.