

## **Science Education in a Period of Rising Insecurity, Kakistocracy and Economic Downturn: A Tool to National Development**

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### **Abstract**

This paper examines science education in a period of rising insecurity, kakistocracy and economic downturn; way to the national development. It conceptualizes insecurity, kakistocracy and economic downturn as the worthlessness of life and property because of its unsafe and unprotected nature which creates panic in the lives of the people. Science education is considered as a tool to helping people create a society characterized by dignity for all, and in which injustice, arrogance, violence and bigotry have no place in the society. The nation is faced with problem of economic downturn, kakistocracy system of government and insecurities ranging from drug trafficking, crimes, poor management of the national economy to unemployment which is the other of the day. Kidnapping and other corrupt practices are not left out. Kakistocracy describes a government manned by the worst set of people. That is a government with little or even no solutions to offer, except, greed, avarice theft, prebendalism and its likes while economic downturn has a great impact in the implementation of science curriculum such as inadequacy of science teachers, poor funding of both federal and state government schools and also inadequacy of existing resource for implementing science curriculum Several strategies to combat the insecurity have been put in place yet nothing has changed for good. This paper discusses science education as a tool for national development to combating insecurity, kakistocracy system of government and economic downturn in Nigeria.

**Key Words:** Economy Downturn Kakistocracy, Insecurity, Science Education, and National Development

### **Introduction**

Education is the fulcrum that propels meaningful development to any nation. There is no nation that can achieve any development when the type of education given to the people at all levels especially at the higher level is that which makes the individual become a nuisance not only to himself but also to the society. Education goes beyond literacy alone because for an individual, education means the provision of opportunity for him to realize his potentials, goals, and abilities in life. Any nation that seeks to overcome the insecurity problems must ensure the development of science education as it is the application of scientific principles to solving the problems emanating in the country through education Okoli & Anazodo (2022). It is obvious that several third world countries are enmeshed in poverty, disease infestation, unemployment, harsh economic downturn, insecurity and kidnapping. The levels at which the afore-mentioned variables negatively causing developmental challenges such as endemic penury, high rate of unemployment, inured corruption, low industrial output, unstable and deteriorating exchange rate, high inflation rate, inadequate physical and social infrastructure, large domestic debt, and rising external debt profile (Ewetan, 2013).

From the universality of the word science as a branch of knowledge that examines the structure and behaviour of the physical and natural world through experiments and observation, science education is most commonly broken down into the following fields Biology, Chemistry and Physics David D Thornburg (2009). The purpose behind any scientific activity is to give an explanation for something; to provide an accurate

description of some events; to diagnose the nature of some conditions. For instance, it is the purpose of science education to explain why the air we breathe helps food metabolism and release of energy. Today the most significant difference between the developing and developed countries of the world is the difference in the level of science and technology in the two groups. Hence, it is of importance to recognize the need for a good education system (Arthur & Sheffrin, 2003).

Since the return of democracy in 1999 and a relative increase in funding of education in Nigeria, the number of students taking science courses is on the increase because of the government's affirmation action to fund subjects which are crucial to science and technology development, although the percentage is still below the recommended 40%. However, low literacy rate, poverty, poor nutrition, inadequate investments in both human and capital development remain the factors, among others, that militate against the development of science education in developing countries including Nigeria (Ndubueze, 2011).

Science education is an important key to achieving sustainable national development for a nation to grow and survive. Aina (2013) opines that science education deals with sharing of science content and process with individuals who are not considered traditionally to be member of scientific community; the individuals could be students, farmers, market women or a whole community. Science education in Nigeria concentrates on the teaching of science concepts, method of teaching and addressing misconceptions held by learners regarding science concepts (Aina, 2013). Quality science education is essential for a nation to develop socially and economically. Education is the greatest and most important investment. Science education is an aspect of education that deals with scientific knowledge and ways of solving scientific problems.

According to Ezekiel (2018), the objectives of science education for secondary school are to enable students:

- i. Acquire scientific and thinking skills
- ii. Understand the development in the field of science and technology.
- iii. Acquire knowledge in science and technology in the content of natural phenomenon and everyday life experience.
- iv. Apply knowledge and skills in a creative and critical manner of problem solving and decision making.
- v. Evaluate science and technology related information wisely and effectively
- vi. Face challenges in the scientific and technological world and be willing to contribute towards the development of science and technology.
- vii. Appreciate the contributions of science and technology toward national development and the well-being of mankind.
- viii. Practice and internalize scientific attitudes and good moral values
- ix. Realize the importance of inter-dependence among living things and the management of nature for survival of mankind.
- ix. Create awareness of the need to love and care for the environment and play in active role in its preservation and conservation.

Matters of insecurity are topical issues in today's Nigeria education. Insecurity connotes different meanings such as: absence of safety; danger; hazard; uncertainty; lack of protection, and lack of safety. Beland (2015), insecurity is "the state of fear or anxiety stemming from a concrete or alleged lack of protection." It

refers to lack or inadequate freedom from danger. Achumba (2019) defines insecurity from two perspectives. Firstly, insecurity is the state of being open or subject to danger or threat of danger, where danger is the condition of being susceptible to harm or injury. Secondly insecurity is the state of being exposed to risk or anxiety, where anxiety is a vague unpleasant emotion that is experienced in anticipation of some misfortune.

Insecurity can also be classified into several dimensions. The most significant dimensions are:

- i. Physical insecurity: violent personal and property crimes,
- ii. Public insecurity: violent conflicts, insurgency and terrorism
- iii. Economic insecurity: poverty, unemployment,
- iv. Social insecurity: illiteracy, ignorance, diseases or illnesses, malnutrition; water borne diseases, discrimination and exclusion,
- v. Human rights violations - denial of fundamental rights by state and non-state actors in different states,
- vi. Political insecurity – denial of good and social democratic governance

The issue of insecurity is not new in Nigeria, has become the order of the day. No day passes without reports of kidnapping, banditry, robbery, murder, and wanton killings. More worrisome is the fact that in spite of huge resources being injected into the defense sector, the Nigerian government seems unable to curb this menace that has bedeviled the well-being of the nation for a long time. The country is currently struggling with insecurity which cut across the six geo-political regions particularly in the north east, north central, northwest and south east regions. Residents in these regions now hardly sleep with their eyes closed while the government that is normally instructed with the security of their lives and properties seems to be helpless.

In addition, sharing the view Onifode, Imhonopla and Uorim (2013) stated that an insecure person perceives the world as a life-threatening jungle, feels unsafe, unhappy, rejected, hostile, and pessimistic, shows a sign of tension, conflict and guilt, and tends to be neurotic and generally egocentric. The Nigerian education sector has been bedeviled with numerous cases of school attacks across the nation which has led to the closure of schools for at least two years in some parts of Borno and Yobe States. Human Right Watch (2016) as cited in Ogunode, Godwin and Unoaku (2021), submitted that in Borno, one of the most affected states, schools at all levels have been closed in 22 out of 27 local government areas for at least two years, and public secondary schools in the state capital, Maiduguri, only reopened in February 2016 after internally displaced people, or IDPs, who occupied most of the schools, were relocated elsewhere.

Many of the developed nations in the world have been able to achieve so much in the areas of security through science education (Aina, 2013). More so, science education is a tool for social transformation and combating insecurity. It breeds the best brains, builds the best workforce, develops the best social beings and ensures formidable teams of leaders and followers in any nation (Uyanga, 2016). Man's adaptation and survival in an environment depends on his degree of scientific knowledge and skill acquisition through the learning of science education whether formally or informally. Furthermore, science education involves the inculcation of scientific literacy that enables the citizens of a nation to utilize the physical resources they have to improve the standard and quality of life. It also enables the citizens to meet up with the basic necessities of life such as food, shelter and health. It also promotes security and industrialization, frees the citizens from fears of superstition while promoting law and order in the society which helps in combating insecurity (Uyanga, 2016). Science education can help combat insecurity through the following mean:

- i. Addressing various misconceptions about life

- ii. Assisting the citizens to broaden their knowledge and understanding of life
- iii. Exhibition
- iv. Regional scientific cooperation
- v. Awareness creation

Kakistocracy according to Oxford Language On-line Dictionary is the “government by the least suitable or competent citizens of a state”. Merriam-Webster on-line dictionary equally defines it as “government by the worst people”. Kakistocracy, therefore, means a state or society that is governed by the least suitable or incompetent citizens. Etymologically however, Kakistocracy comes from the Greek word kakistos (worst) or kakos (bad) + kracia (rule, power or government). Kakistocracy describes a government manned and administered by the worst, bad and most terrible set of people. It is very instructive to note that when it comes to the hierarchical representation of the capability of the personnel that make up the sort of arrangement, they are not merely bad, but worse than bad, thus living a sane mind to only imagine empathetically that which such a set of leaders can impact the state with. Kakistocratic tendencies does not only limit its tentacles to state or governments, this sort of leadership behaviour may explain the world’s woes as regards, citizens’ misconduct, corporate scandals, misdemeanor in the church, anomalies in civil society, spousal indiscretion and infidelity, the desecration of rule of law, and even the persistence of illegitimate authoritarian states and despotic rulers Valentine & John (2021).

Accordingly, to Jude (2023) see kakistocracy as government by the least suitable. It is the government of the lowest degree of competent citizens of any state. Kakistocracy remains the leadership by the worst or least qualified in the midst of the best and most qualified. It is the government of the idiots. That is the idiocracy. It is the leadership of the idiots, the moron, the imbecile, the simpleton, the nincompoop, the feeble unreasonable elders and aged.

In Nigeria, economic downturn has hindered both the procurement of human and material resources for effective science curriculum implementation. The term economic recession can be defined as a period of general economic decline and is typically accompanied by a drop in the stock market, an increase in unemployment and a decline in the housing market, a situation where there is a recession in a nation’s economic activities, a situation where the nation’s economy seems to be standing on its ad (Kumuyi, 2010). The term also refers to hardship experienced by individuals, firm and government as a result of inadequacy in the economy over period of time. It also means the difficulty and uncertainty that exists in the economy due to insufficient resources. Also, an economic downturn is typically defined as a decline in gross domestic product (GDP) for two or more consecutive quarters.

According to National Bureau of Economic Research (NBER), is defined as a “significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real gross domestic product (GDP), real income, employment, industrial production and wholesale retail sales”. More specifically, economy downturn is defined as when business cease to expand, the GDP diminished for two consecutive quarters, the rate – unemployment rises and housing price decline. Many factors contribute to an economy’s fall into recession but the major cause is inflation. Inflation refers to a general rise in the prices of goods and services over a period of time. Economic downturn in Nigeria is due to structural imbalance caused by the neglect of agricultural sector and overdependence on oil revenue. Due to this, government has slowed down in the provision of the necessary infrastructure for the people. For the fear of increase in wage bill,

government is no longer giving employment and with closure of most industries and factories, all their employees become jobless. In addition to these, many workers have lost their jobs making the unemployment rate in Nigeria very high. For the masses, the impact of economic downturn is scary because there is no cash to meet daily needs and coupled with skyrocketed prices of foodstuffs, manufactured goods and services, untold hardship and suffering of citizens Oyovwi. (2022).

The sufferings have manifested in hunger, poverty, unemployment, school drop outs, unmotivated angry workers, etc. Many teachers especially science education teachers who are the implementers of the science curriculum cannot meet their daily needs due to high cost of living brought about by the economic recession. These conditions of teachers may bring about divided attention and poor concentration on the teaching profession, thereby reducing their output. Some even become unnecessarily harsh to the students and would not take time to give a proper explanation on any concept taught; as such student lose interest in the class activities thereby affecting the impartation of such knowledge.

## **Problem of Science Education Development**

### **1. Insecurity**

Security issue in Nigeria has been worrisome for more than two years now because of Boko Haram, armed bandits, Herdsmen and militants. The lives of nationals living in Nigeria are in perpetual danger of abduction or kidnapping. Lecturers and students don't know their fate every day until they retired to bed at night; even while sleeping they cannot sleep and close their two eyes because of armed robbers. The recent attacked on a northern university where students and lecturers were cold bloodedly murdered including a professor of chemistry still remains an insomnia in academic arena. Science infrastructures built with huge amount of money for schools had been destroyed while gas and oil installations vandalized; the resultant effects of these is on education. A teacher who is not secure while doing his / her job cannot put in the best. Cultists are all over the institutions of learning posing serious danger to academic communities. Worsen enough is science teachers also being cultist and encouraging all forms of examination fraud thereby discouraging hard work among serious science students.

### **2. Corruption**

Corruption has eaten deep into Nigeria system and it is manifesting in every sectors including education. In Nigeria today it is not what you know but whom you know; recruitment to job is tied down to criteria such as political favoritism, geographical area or quota system. Many of the teacher training institutions and universities cannot boast of the best academic staff because the best probably do not have godfather who can help them. Appointment is no longer based on merit but on whom you know and the amount you can offer for such job. Purchases of science equipment to schools are no longer done transparently since it is either the chief executive of the school or any of his or her relation who do the supply. In this case they neither supply the required specification nor the required quantity; in most cases they don't even supply anything. Most of the science laboratories are empty building or buildings filled with fake or obsolete science equipment which are useful for nothing but mere demonstration. Money meant for staff training are diverted to personal account while selections of those who benefit in staff training is on whom you know syndrome. All these bounced back on the quality of science education the nation produces.

### **3. Politics**

Nigeria has not been having a stable political system of government since her independence in 1960. Stable political system of government is very essential to educational development of any. These leaders have no regard for education but concentrate on establishing their government for long years. The few years of civilian rule has been years of lack of focus; government educational program changed according to the taste of the political party in power. Many science equipment and infrastructures are lying in waste in our schools because of instability in political government.

### **4. Economy**

Nigeria is blessed with many natural resources on which her economy rest upon; however over dependent on petroleum has seriously affected the economy. The effect is on science education since science equipment and apparatus are inadequate in the country and the cost of importing these materials is high because of exchange rate.

### **5. Lack of Adequate Practical Exposure**

The importance of hands-on science education (practical) cannot be overemphasized. Performance of practical's (experiments) enable students to observe no intuitive phenomena and puts the student in a better position to reconcile the underlying theoretical knowledge. In this setting, a well-equipped laboratory can take advantage of the necessary hardware to capture experimental data which can then be transferred to computer for further analysis

## **Role of Science Education in Nation Building**

The term 'Nation Building' suggests that nation is undergoing development stages. It is indeed, under construction. The crucial areas of development include economic, agricultural, industrial and technological, health, human and mineral resources, politics, security and education. Of all these, education holds the key to national development. As stated in the National Policy on Education (NPE 1981), the Federal Government of Nigeria has adopted education as an instrument par excellence for effecting national development. The five main national objectives of Nigeria as stated in the Second National Development Plan and endorsed as the necessary foundation for the National Policy on Education are the building of:

- i. A free and democratic society;
- ii. A just and egalitarian society;
- iii. A united, strong and self-reliant nation;
- iv. A land of bright and full of opportunities for all citizens and;
- v. A great and dynamic economy.

These national objectives indicate the desired directions for nation building. Considering these, science education has a crucial role. Denga (1997) considers Science Education as: A gate-way to industrial development, a fulcrum on which technological development pivots. The national socio-economic, political and industrial development hinges on the scientific status of the nation.

The principle guiding the development of National science education as stated in Junald & Alanamu (2019) are:

1. **Science Education is for all:** All students regardless of age, sex, cultural or ethnic group, disabilities, interest and motivation in science should have equal right to attain high level of scientific literacy.

2. **Learning science is an active process:** teaching of science must involve students inquiry oriented investigations in which they interact with the teachers and peers students establish connections between the current knowledge of science and the scientific knowledge found in many sources.
3. **School science reflects the intellectual and cultural traditions that characterize the practice of contemporary science:** To develop a rich knowledge of science, students must become familiar with methods of scientific inquiry, rules of evidence ways of formulating questions and ways of proposing explanation.
4. **Improving science education is part of systemic education reform:** The National Science Education standards provides the unity of purpose and vision required to focus all those components effectively on the importance of improving science education for all students, supplying all what is needed for a long term changes required.

The role of science and technology for future development in any nation may be broadly stated in terms of meeting felt needs by technological innovation and scientific advancement and realizing long-term national goals for the next century. These goals fall under the following six headings.

1. **To ensure national security and social stability:** Science and technology are expected to lay a vitally important role in ensuring national security and social stability. To sustain the growth of the national economy and to improve its efficiency. In the past, technological progress made only a minor contribution to the growth of national income and should be changed to make greater contributions.
2. **To prepare for smooth transition to an information society:** Societal change to an information society will demand the development of information related industries centered on micro-electronics, communications, computers etc.
3. To improve the quality of life, technology in the areas of public health such as disease control, medicine and medical electronics needs to be developed.
4. Another area is the protection of the environment for better dwelling condition on the one hand and for increased productivity of the land on the other hand.
5. Development of information technology indirectly related to daily living, will increase social benefits, and will in turn help reduce urbanization.
6. To create a new culture suitable for the new society. Another far-reaching goal of science and technology is the creation of new culture for the next century.

## **Conclusion**

Nigerian politics seems to have a version of her government. It's a government that borders on old people, the worst set of people in terms of character and disposition and selection in terms of election. For the quality of science education to improve in Nigeria, appropriate policies and homemade professionals who are in tune with the philosophical orientation and realities of the people of Nigeria must be incorporated in science education in the language of the people. In the light of the above review it is obvious that science education is very important to national development; insecurity, kakistocracy, economic downturn and corruption are the major problems militating against its development in Nigeria. However, there are other problems like unstable political system of government, poor economy, poor method of teaching and teachers' attitude to teaching. Overcoming these problems is the responsibility of everybody in the country. To overcome these problems, government must create more job; corruption must be shun everywhere in the country; there must be continuity

of government good program; diversification of economy to agriculture is necessary and science teachers must be ready for change in their method of teaching and attitude to work.

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