
**REDUCING POVERTY THROUGH SUSTAINABLE SCIENCE
EDUCATION**

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Doi: <https://doi-doi.org/101555/ijarp.1540>**ABSTRACT**

The Oxford Advance Learner's Dictionary of current English defines Poverty as a state of being poor: There is poverty because human resources are not developed in the required areas where the contributions can serve a panacea to poverty through self-reliance. Science Education does not only equip beneficiaries to build up technical knowledge and capabilities, but also to create new values the help and assist individuals to cope with the social and environmental change in Business Community: If Science Education will therefore play the expected role, it has to be well funded. adequately supervised and consciously directed towards reducing poverty in our country: This paper therefore intends to highlight ways the Nigeria nation can reduce poverty via sustainable Science Education.

KEYWORDS: Poverty: Reduction, Science Education.**INTRODUCTION**

The most important asset of any nation is its human resources. It is of paramount importance that such resources are properly and adequately developed, effectively managed and sufficiently motivated. There is bound to be poverty when human resources are not developed in the required areas where the contributions can provide among other things, self-reliant skills.

According to Calhoun (2021) one prime goal of Science Education is the "Development of occupational competency for obtaining a job in a Science career". Here, the submission is that there should be cooperation between the employers and employees playing their best roles to achieve this goal. In line with this assertion therefore, Science Education should be

patterned and structured towards impacting on the trainees, skills for gainful employment and job creation (Olopete 2023).

Science Education has to be developed. Onyeje (2020) opines that Education is the basis for preparation of the individual to take his place in his society. This primary and encompassing objective of preparing the individual to live effectively in and contribute positively to the development of his society can only be achieved by exposing the individual to well-planned learning opportunities and experiences.

In this regard, the National Policy on Education (NPE 2020) states that Nigeria's philosophy of education is therefore based on the integration of the individual into a sound and effective citizens of the nation, at primary, secondary, tertiary institutions and outside the formal school system. A sound and sustainable Science Education will enrich citizens who would turn out to be producers and not mere consumers.

In his contribution Nannasey (2021) sees Science Education as total educational programme that provides knowledge, skill and understanding needed for performances in the science world as a consumer or producer. Quite often, the level of technological acquisition and development has become the basis for determining social economic and industrial development. Thus, in order to tackle the problems of poverty and low quality of life, most developed countries have recently turned attention to implementing those strategies that could enhance technological acquisition for national development.

Akintola (2022) states that one of the problems facing the third world countries at present is the shortage of technically trained manpower in the right standard and quality. This shortcoming is evident, not in the natural ability of the people to make things work but in the level of performance in the industries, mines, agriculture and educational institutions where sound technical skills are required. The missing link, therefore, in the economic system of most underdeveloped nation is the technicians, and before an economy can be built on the manufacturing industries, there has to be an appropriate infrastructure with all its related services.

Sustainability in Science Education for Poverty Alleviation:

There should be a design for sustainability into Science Education programme in order to alleviate poverty. Ajakaiye and Olomola (2023) project that sustainability encompasses several dimensions such as financial, institutional, political and environmental. The role of finance is vital input in successful implementation and operational stability of science education it has to be noted that if sustainable science education will reduce poverty,

sufficient financial resources must be released to meet the capital and recurrent expenditure associated with the programmes.

History of Poverty in Nigeria:

The history of poverty has been with the society for a very long time. Governments (local, state and Federal) have in recent past, made efforts to alleviate poverty in the country. Poverty will be alleviated when the living standard of the rural dwellers is uplifted. Poverty will be reduced when every citizen is equipped to contribute to the welfare of the country.

Poverty alleviation, particularly at the individual level, can be achieved much easier through programmes of education, which will enhance self-reliance and participatory decision making (Anunmu 2024).

Many reasons have been adduced as cause of poverty in Nigeria some of which are:

- a. Inadequate access to education, health, sanitation and water services. This emanates from inequitable social service delivery, which consequently results in the inability of the poor to live a healthy and active life and take full advantage of employment opportunities.
- b. Inadequate access to assistance by those who are victims of transitory poverty as drought food pest and water. These are brought about by lack of well-conceived strategies and resources.
- C. Inadequate access to employment opportunities for the poor. This is often caused by the stunted growth of economic activities or growth with labour saving device.
- d. Inadequate access to markets for goods and services that the poor can sell; this is caused by their remote geographic location or other factors.
- e. The destruction of the natural resource endowments, which has led to reduced productivity of agriculture, forestry and fisheries. This is often resulted from the desperate survival strategies of the poor as well as inadequate and ineffective public policy on natural resource management.
- f. Inadequate involvement of the poor in the design of development programmes. This is often exacerbated by the non-involvement of the representatives of the poor communities or beneficiaries in the discussion, preparations, design and implementation of programmes that will affect them(Mogaji 2024).

Society's Need for Science Education

Every citizen should be effectively equipped to contribute to the welfare of the country. Osuala (2021) opines that a sustainable science education can reverse the unemployment

trend and minimize the mass exodus of people from rural to urban centres by providing jobs for people in their locality. It is important therefore, that every citizen should be skilled in one type of occupation or the other. It should not be forgotten that economic and social well being of any society is dependent upon the quality and quantity of goods and services available to its citizens.

Uduma (2022) contends that training of students for life and for eventual leadership in Business and the capacity for "practical application" is desirous towards the achievement of a free enterprise system of economy and government. In the Nigerian context we cannot stop asking "If the Science Education we give is adequate, relevant and effectively integrated into the real practical world of business, why then, this much problem of unemployment?"

A properly integrated Science Education programme would go a long way to correct negative trends. Uduma (2022) further asserts that Science Education produces manpower that possesses the requisite knowledge, skill and attitude for harnessing other resources demanded by the society. Such education helps in the development of the society and socio-economic competences, which make people more intelligent consumers of goods and services. In other words, every citizen is directly or indirectly affected by Science Education in being either a producer (worker) or a consumer.

A graduate of Science Education is well equipped to be self employed thereby not only reducing unemployment, but creating employment opportunities. According to. Olatoke (2024), the Science graduate has the understanding of the economic system and therefore can intelligently position himself in a manner that he can take advantage of latent choices which abound but which are hardly noticed by the uninitiated.

The acquisition of knowledge in accounting, keyboarding, economics, commerce and so forth is not by itself an end, it is assumed that these skills affect whatever graduates of Science Education can do. The ability to source for investment capital and putting some to effective use is the main reason that makes private sector enterprises thrive in Nigeria, at least to a certain degree. Therefore, if the laudable objectives of Science Education are properly articulated and implemented, we would not expect less from these graduates who we know must have acquired the required attitude and competencies to make them self-reliant.

The need for Science Education is seen in its role of combating unemployment. When a Science graduate establishes an enterprise, he would certainly employ himself and others, thereby reducing and or combating the employment problem in our economy.

Problems Facing Science Education Programme

1. Teaching/Training Facilities

The instructional facilities in consonance with industrial development in the country are grossly inadequate. Not only are they few in number but most of those available are outdated and need replacement; some equipment are non functional for lack of spare parts. For the purpose of increasing the rates of skill development, the tools for construction must be made available to the teaching training environment.

2. Insufficient Finances

This is a realistic and practical factor affecting sustainable Education in Nigeria. Evidently, there are some educational programmes that can be done/offered without extra cost but a programme like Science Education cannot be offered with no extra cost. The present commitment by the government to Science Education in terms of budgeting allocation is not encouraging. That has greatly hampered the development of the various programmes especially in the institutions of higher learning.

3. Inadequate knowledge

The lack of adequate knowledge about what Science Education is all about constitutes a major obstacle to the development of the programme. One becomes frustrated to learn that even those in high places in the education hierarchy claim ignorance of the programme. At this technological age, it is ironical that we should be talking about ignorance of a programme like Science Education.

4. Parental Influences due to Misconception Some parents do not want their children to study Science Education because they believe that it is meant for less brilliant, instead, they opt for courses like Law, Accountancy, Science Administration etc.

5. Laziness

Laziness is a problem that is almost too common to mention. Innovation requires hardwork. Business/Vocational Education is an educational charge that requires efforts. Most students of today are such that will not want to exert their energy in the development of manipulative skill demanded for Science Education.

6. Political Instability of the Environment

The unstable political and economic environment is a problem. According to Ibru (2024), the absence of democracy, unstable political and economic outlook, policy, inability, the decline of both foreign and local investment have led to a down turn in economic output and growth, employment reduction of capacity utilization industries, social dislocation among others, all of which have led to increase in the incidence and pervasiveness of poverty.

7. Corruption and Poor Ethical Standards Some individuals especially those in government are so corrupt that the few available funds earmarked for such sectors like education, health, and social welfare among others, have been used to enrich their purses through inflated cost of contract. These can ultimately cause reduction in resources available to the generality of the people.

CONCLUSION

Science Education trains the individuals not only on skills acquisition but also on self reliance. There is poverty today, not because Nigerians in the majority could not possess education but because some Nigerian possess education which are not saleable (Osuala 2021).

In his thinking Oriaifor (2023) again suggests that efforts should be redoubled among Nigerians in order to put together what we know can energize our school programmes, what can develop our skills to mature human and national beneficiaries. These can be used to deal with the challenges in the country.

In our educational institutions, it is time to acknowledge and accept changes. It is time to know that the era for unskilled manpower in all sectors of the economy is over. The type of education which prepares man for practical work has to replace the theoretical education in modern Nigeria.

Governments (Local/State/Federal), Science Organisations and philanthropists, should increase funding of Science Education in order to ensure self-reliance and bail the country from poverty.

RECOMMENDATIONS

If Science Education is to achieve its objectives of self reliance and economic development, some of the existing situations have to be corrected. These include:

1. An Assessment of the Present Science Education Curriculum

A Curriculum is a series of planned and unplanned learning activities, which a student is exposed to in the course of his development, the aim of which is to make him develop fully his potentials so as to function effectively.

Babade (2025) opines that a worthwhile curriculum is never static. It is dynamic. As the societal needs change, curriculum changes or is modified to respond to the emerging needs.

2. Adequacy of Training Facilities

Training facilities include relevant textbooks, classrooms, equipments, machines and finances, and human and material resources. These will not only produce effectiveness but will go a long way to alleviate poverty.

3. Manpower Development

Handlers of Science Education must be adequately developed from time to time Technology is growing fast and all aspects of economy is affected. Most of the present crops of lecturers were trained in the 80s and 90s. The 'Nomodat' a principle that states that nobody gives what he does not have is applicable to this set of trainers. They need to be retrained to possess the skills they are supposed to develop in others.

4. Involvement of Professional Bodies Professional Bodies such as the Nigerian Association of Science Educators, ICAN, Nigerian Bodies of Town Planners, Land Surveyors and Valuers, COREN etc must have input in advising, moderating and implementing the redesigning of the scope of their programmes so that entrepreneurial aspects would assist in alleviating poverty in the Society.

5. Government Reawakening

There is the need by government to reawaken in the populace the encouragement and the spirit of contributing to the economy. Dimowo (2022) opines that it is necessary to redirect and reconfigure the energy and spirit of people to perform a whole new task-quite unrelated to what went on before. This is perhaps why Ilori (1999)unsightly contends that workers perform most energetically, creatively and enthusiastically when they believe they are contributing to a purpose that is larger than them.

6. Funds for Graduates of Science Education

Adequate funds should be made available to Science Education graduates so that they can establish their own business and thereby become job creators instead of job seekers. This will reduce unemployment and poverty rates. The activities of the National Directorate of Employment (NDE) is brought to focus here through which the Federal Government assists with loans under "Job Creation Loan Guarantee Scheme". The impact of such schemes at the local, State and Federal levels should be felt more to encourage self-employment and self reliance.

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