

THE ROLE OF EDUCATION IN SUSTAINABLE DEVELOPMENT IN NIGERIA

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Abstract

This paper explores the critical role of education in promoting sustainable development in Nigeria. Education is a fundamental driver of this integration, equipping individuals with the knowledge, skills, and values necessary to address complex global challenges. This paper examines how a reformed educational system, aligned with SDGs, can overcome these obstacles and contribute to sustainable national development. The paper highlights the importance of incorporating sustainability into the educational curriculum, promoting lifelong learning, and leveraging technology to improve educational outcomes. It also discusses the need for policy reforms, increased government investment, and stakeholder engagement to create a more inclusive and effective educational system. Key recommendations include increasing the budgetary allocation to education, integrating sustainability issues into curricula, enhancing teacher training, and forming global partnerships to share best practices and resources. Future trends such as the integration of technology in education, a focus on STEM (science, technology, engineering, and mathematics) education, and sustainability education are explored as vital components for driving innovation and addressing global challenges. By fostering a robust educational framework, Nigeria can prepare its citizens for the challenges and opportunities of the 21st century, ensuring that economic, social, and environmental progress go hand in hand. In conclusion, the paper underscores that education is not just a pathway to personal and national development but also a cornerstone for achieving sustainable development. By addressing current educational challenges and implementing strategic reforms, Nigeria can build a more prosperous and sustainable future, contributing significantly to global efforts in sustainable development.

Keywords: *Education, Sustainable Development, Nigeria, SDGs, Policy Reforms, Curriculum Integration, Lifelong Learning, STEM Education, Teacher Training, Global Partnerships.*

Introduction

Education can be conceptualized and elaborated in several ways and from different points of view. Okorosaye-Orobite (2005) defines education as a process, as a product, and as a discipline. As a process, it “is the activity of preserving, developing, and transmitting the culture of a people from one generation to another.” As a product, “it refers to change, whether overt or covert, implicit or explicit, which education is expected to bring about.” Asodike (2008) stresses that the product of education is the educated person, who in the African context is one “who shows evidence of a well-integrated personality.” The role of education in the development of nations can never be overemphasized. Among all the developed nations in the world, none can be accused of academic deficiency because they have invested heavily in education, making research and community services a regular norm. Education is a systematic process aimed at changing the behavior of individuals, groups, or countries through formal and informal methods. It deals with the mental, physical, psychological, and social development of citizens in a given society. The goal of education is manpower development, aimed at national growth and development. Education is the fundamental cultural process that prepares individuals to live, work, function, and survive in a given society.

Anya (2008) further conceptualizes education as an instrument for inducing social change. Additionally, Muoghalu (2013) opines that education is a tool for empowerment, emancipation, and national development; and that it constitutes one of the critical foundations for any meaningful socio-economic transformation of a country. Hence, education presupposes a

comprehensive national system and a functional national structure that is useful in changing behavior. Education at all levels and in all its forms constitutes a vital tool for addressing virtually all global problems. Education is not only an end in itself; it is a key instrument for bringing about changes in knowledge, values, behaviors, and lifestyles required to achieve sustainability and stability within and among countries (Rajaj & Chiv, 2009). Education has been seen as the greatest force that can be used to bring about changes. Aminu (1995) observed that the greatest investment a nation can make for the development of its economic, sociological, and human resources is education. According to him, education provides us with people possessing the necessary knowledge and skills to win a nation's state and even export brains. Education shall continue to be highly rated in national development plans because it is the most important instrument for change: any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution.

The world currently revolves around development as the need for development occupies a primary place in the lives of individuals and countries. This enhances the desire for people to move closer to development. Those who are farther from development wish they were closer and consistently strive to be closer to it, while those who are close wish nothing was separating them from it. In view of this, the concept of development turns out to be a vague term. This is due to the absence of an archetype of development; therefore, changes considered to be development today may be considered primitive tomorrow. This accounts for the difficulty in articulating a definite concept of development in this ever-changing world. Development, according to Walter Rodney (1976), is the ability of the state to harness its natural resources or endowment for the well-being of its citizens. Sen (1989) views the concept as encompassing the economic, political, social, cultural, and environmental dimensions. While economic and social progress and the elimination of poverty are the objectives of development, it also includes freedom from fear and arbitrary arrest, free speech, free association, and the right to vote and be voted for with an exclusive right to education.

The world leaders present at the 70th Session of the United Nations General Assembly in

September 2015 took another historic step when they adopted the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development envisions a present and a future that is economically sustainable, socially inclusive, and environmentally resilient. This is expressed in the framing of the 17 SDGs, 169 targets, and 230 key performance indicators. The SDGs are a universal call to action to end illiteracy, and poverty, safeguard the planet, and ensure that all people enjoy peace and prosperity by the year 2030. The sustainability of developmental goals remains a significant challenge for every nation in the world. In an environment of flexibility coupled with multiple and conflicting objectives on social, economic, energy, and environmental issues, a fuzzy goal programming approach proves to be suitable in helping policymakers attain their aspirational goals as it takes imprecise information into account. In this study, we propose an education model to analyze the sustainability of the country.

Education is critical in addressing the myriad of challenges faced by Nigeria in its quest for sustainable development. Despite achieving independence in 1960, Nigeria still grapples with significant socio-economic challenges that impede its development trajectory. One of the primary issues is the disparity in educational access and quality, particularly between urban and rural areas. Rural regions often suffer from inadequate infrastructure, lack of qualified teachers, and insufficient educational materials, which result in lower enrollment and higher dropout rates (Efe, 2014). This rural-urban divide exacerbates socio-economic inequalities and hinders national development.

Moreover, the quality of education in Nigeria remains a critical concern. Many schools are under-resourced, with poor facilities and outdated curricula that do not align with the skills required in the modern workforce (Olawale & Garwe, 2010). The mismatch between educational outcomes and labor market needs contributes to high unemployment rates among graduates, who often lack the practical skills demanded by employers. Additionally, teacher quality and motivation are significant issues, with many teachers facing challenging working conditions, including low pay and large class sizes, which contribute to low morale and high attrition rates (Ajayi & Ekundayo, 2011).

Gender disparities in education also pose a significant challenge, particularly in northern Nigeria, where cultural and religious factors often restrict girls' access to education (UNICEF, 2012). Addressing these disparities is crucial for achieving gender equality and empowering women to contribute to national development. Efforts to promote gender equality in education must be intensified to ensure that all children, regardless of gender, have access to quality education.

Furthermore, the socio-economic inequalities in Nigeria compound the challenges faced in the educational sector. Children from low-income families are less likely to attend school due to financial constraints and the need to work to support their families (Onyukwu, 2011). This situation is exacerbated by the costs associated with schooling, including fees, uniforms, and books, which are often beyond the reach of impoverished households. As a result, the educational attainment gap between different socio-economic groups continues to widen, undermining efforts to achieve equitable development.

Addressing these multifaceted challenges requires a comprehensive and coordinated approach involving all stakeholders, including the government, private sector, civil society, and international partners. Enhancing funding for education, improving infrastructure, updating curricula to meet contemporary needs, and investing in teacher training and motivation are essential steps towards building a robust educational system that can drive sustainable development in Nigeria. Moreover, targeted interventions to address socio-economic and gender disparities are crucial to ensuring that all children have access to quality education.

In conclusion, education plays an indispensable role in fostering sustainable development in Nigeria. While significant progress has been made, considerable challenges remain. By addressing these challenges through strategic investments and reforms, Nigeria can unlock the full potential of its educational system, paving the way for a more equitable and prosperous future.

Statement of the Problem

Nigeria, a nation endowed with vast human and natural resources, has been grappling with the challenge of translating its potential into

sustainable development for over six decades since gaining independence in 1960. Despite numerous policies and initiatives aimed at fostering growth, the country continues to face significant socio-economic and environmental challenges. Central to these challenges is the state of the educational sector, which is critical for building a knowledgeable and skilled population capable of driving sustainable development. This statement of the problem explores the multifaceted issues within Nigeria's education system that hinder its contribution to sustainable development, emphasizing the need for urgent and comprehensive reforms.

Since gaining independence, Nigeria has experienced periods of political instability, economic fluctuations, and social unrest, all of which have impacted the educational sector. Over the years, various administrations have introduced policies aimed at improving education, yet the sector remains plagued by chronic underfunding, inadequate infrastructure, and a shortage of qualified teachers. Public expenditure on education has consistently fallen short of the recommended benchmark set by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), which advocates for at least 15-20% of national budgets to be allocated to education (UNESCO, 2015). This persistent underfunding has led to dilapidated school buildings, insufficient learning materials, and overcrowded classrooms, adversely affecting the quality of education.

A significant problem facing Nigeria's educational system is the unequal access to quality education across different regions and socio-economic groups. Rural areas, in particular, suffer from a lack of educational facilities and trained teachers. Children in these areas often have to travel long distances to attend school, and many drop out due to the hardships involved (Aigbokhan, 2017). This disparity in educational access perpetuates a cycle of poverty and underdevelopment, as those without education are less likely to secure gainful employment and contribute effectively to the economy.

Moreover, the quality of education in Nigeria is compromised by outdated curricula that do not align with contemporary global standards or the needs of the labor market. The emphasis on rote learning over critical thinking and problem-solving skills has produced graduates who are ill-

prepared for the demands of the modern workforce (Odukoya, 2018). This misalignment between education and employment needs has contributed to high unemployment rates, especially among the youth, who make up a significant portion of the population.

Teacher quality is another critical issue. Many teachers in Nigeria lack the necessary qualifications and training to provide high-quality education. In addition, low salaries and poor working conditions have led to a lack of motivation and high turnover rates among teachers (Ene, 2019). The result is a teaching workforce that is not equipped to deliver effective education, further exacerbating the challenges faced by the sector.

The Nigerian education system is also hindered by frequent strikes by teachers and other educational staff, primarily due to unresolved issues related to salaries, working conditions, and funding. These strikes disrupt academic calendars and contribute to the instability of the educational system, further diminishing the quality of education that students receive (Ololube, 2016).

Furthermore, there is a significant gender disparity in access to education. Cultural norms and economic factors often prioritize the education of boys over girls, particularly in rural areas (Obasi, 2018). This gender gap in education limits the potential of half the population, hindering overall national development. Inadequate infrastructure is another major concern. Many schools lack basic facilities such as laboratories, libraries, and sanitation. This inadequate infrastructure makes it difficult for students to engage in effective learning and hinders their ability to gain practical skills that are essential for sustainable development (Nwadiani, 2015).

The linkage between education and sustainable development is well-established. An educated population is better equipped to tackle issues such as poverty, inequality, and environmental sustainability. However, the current state of Nigeria's education system is a significant impediment to achieving these goals. The persistent problems of underfunding, unequal access, poor quality of education, teacher inadequacies, frequent strikes, gender disparity, and inadequate infrastructure must be addressed

to harness the full potential of education as a driver of sustainable development in Nigeria.

Addressing these issues requires a comprehensive and coordinated approach involving all stakeholders, including the government, private sector, civil society, and international partners. There is a need for increased investment in education, reforms to align curricula with market needs, initiatives to improve teacher quality, policies to ensure equal access to education for all, and efforts to enhance infrastructure. Only through such concerted efforts can Nigeria's education system be transformed to support sustainable development effectively.

Theoretical Framework

This paper is anchored on Social Learning Theory:

Social Learning Theory, proposed by Albert Bandura, provides a comprehensive framework for understanding how individuals acquire and replicate behaviors through observation, modeling, and imitation. This theory emphasizes the interaction between environmental and cognitive factors, diverging from earlier behaviorist models that did not account for the role of cognition in learning (Bandura, 1977). The theory is grounded in four key components: attention, retention, reproduction, and motivation.

Attention is the first critical step in the learning process. For learning to occur, individuals must focus on a behavior and its consequences, forming a mental representation of the behavior. Without this focused attention, the behavior is unlikely to be noted or remembered. Thus, capturing and maintaining attention is essential for facilitating learning. The environment plays a significant role in this component; novel, interesting, or unusual events are more likely to grab attention and, therefore, be learned (Bandura, 1977). For example, students are more likely to model the behaviors of teachers they find engaging or charismatic, indicating that attention is crucial for the initial phase of learning.

Retention involves the ability to store and recall the observed behavior. This process is vital because social learning often involves a delay between observation and reproduction. For the behavior to be imitated later, it must be retained in memory. Effective retention is influenced by factors such as rehearsal and the meaningfulness of the information (Bandura, 1977). This ensures

that even if there is a significant time gap between the observation and the opportunity to reproduce the behavior, the individual can still perform the learned behavior. For instance, students who engage in repeated practice and review of learned material are more likely to retain and later apply this knowledge.

Reproduction is the actual performance of the behavior that has been observed and retained. This step underscores the importance of physical and cognitive capabilities in determining whether a behavior can be imitated. For example, an individual might admire and observe the complex skill of ice skating, but their ability to reproduce it depends on their physical abilities and prior experience (Bandura, 1977). This component highlights the constraints that physical and cognitive limitations can impose on the imitation process. In an educational context, students may observe a mathematical technique but may require further practice and cognitive development to reproduce it accurately.

Motivation pertains to the willingness to perform the behavior. The perceived rewards and punishments associated with the behavior significantly influence this decision. If the perceived benefits outweigh the costs, the individual is more likely to imitate the behavior. Conversely, if the consequences are viewed as unfavorable, the behavior is less likely to be reproduced (Bandura, 1977). This highlights the role of external reinforcements and internal motivations in the learning process. For example, students are more likely to engage in academic behaviors that are rewarded, such as receiving praise or good grades, and avoid behaviors that are punished.

Bandura's concept of 'Self-Efficacy' enriches Social Learning Theory by introducing the idea of context-specific judgments of one's capabilities to perform a task (Bandura, 1997). Self-efficacy influences an individual's confidence in their ability to succeed in specific situations, thereby affecting their motivation and learning outcomes. High self-efficacy can enhance motivation and persistence, leading to greater learning and performance. For instance, a student with high self-efficacy in mathematics is more likely to tackle challenging problems and persist through difficulties, thereby enhancing their learning and performance.

Social Modeling can be effectively applied in educational settings to enhance learning outcomes. If students observe positive consequences from a particular activity or behavior, they are more likely to repeat it. Conversely, observing negative consequences can discourage the repetition of certain behaviors (Taylor & Hamdy, 2013). For example, if students see their peers being praised for participating in class discussions, they may be more inclined to engage in similar behaviors. Teachers can leverage this by modeling desired behaviors and providing constructive feedback to reinforce positive actions.

Bandura's theory also elaborates on the four mediational processes: attention, retention, reproduction, and motivation. Attention refers to the need for individuals to focus on the behavior and its consequences, forming a mental representation. Retention implies how well the behavior is remembered, which is crucial for later imitation. Reproduction is the ability to perform the behavior, limited by physical and cognitive capabilities. Motivation involves the will to perform the behavior, influenced by the perceived rewards and punishments (Bandura, 1977).

Social Learning Theory offers a detailed explanation of how individuals learn and replicate behaviors through observation, modeling, and imitation. By accounting for cognitive processes and environmental factors, the theory provides a comprehensive understanding of human learning. In educational contexts, applying this theory can enhance teaching strategies and student learning outcomes. Teachers can utilize modeling, reinforcement, and feedback to foster positive behaviors and academic success, ultimately contributing to the development of well-rounded and capable individuals.

The Role of Education in Sustainable Development

Promoting sustainable development effectively necessitates a strong emphasis on awareness and education among all stakeholders. This pivotal role can be most effectively carried out when universities and colleges take on leadership positions in advancing sustainable development goals. These educational institutions are ideally placed to envision and strategize toward global solutions for sustainability challenges. They serve as centers of learning that can empower students to tackle issues such as climate change, energy

efficiency, and broader sustainability concerns (Abdallah, 2008). By integrating sustainable practices into their educational frameworks, universities and colleges not only address current needs but also prepare future generations to continue these efforts.

Education plays a fundamental role in advancing sustainable development by harnessing its resources and fostering a spirit of independence. The Sustainable Development Goals (SDGs), particularly Goal 4, underscore the importance of inclusive and equitable quality education and the promotion of lifelong learning opportunities for all (UNDP, 2024). This goal encompasses several critical areas:

1. **Equal Access to Technical, Vocational, and Higher Education:** By 2030, the aim is to ensure that all individuals, regardless of gender, have equal access to affordable and quality education, including technical, vocational, and tertiary education. This ensures that everyone has the opportunity to acquire the skills necessary for both personal and professional development, which is crucial for supporting sustainable practices (UNDP, 2024).
2. **Education for Sustainable Development and Global Citizenship:** The goal is to equip individuals with the knowledge and skills needed to promote sustainable development. This includes understanding sustainable lifestyles, global citizenship, gender equality, human rights, and the promotion of a culture of peace and nonviolence. Additionally, education should foster an appreciation of cultural diversity and the contributions of different cultures to sustainable development (UNDP, 2024).
3. **Teachers and Educators:** A substantial increase in the availability of qualified teachers worldwide is essential by 2030. This involves international cooperation to enhance teacher training, particularly in developing and underdeveloped countries. The presence of skilled educators is critical for delivering quality education and facilitating learning that supports sustainable development goals (UNDP, 2024).

Universities and research institutes have a significant role in this framework. They are uniquely positioned to model sustainable practices through both research and teaching. As Sarabhai (2006) noted, universities are the

"information and learning organization" par excellence, serving as society's repository of systematic knowledge and contributors to future scientific and humanistic understanding. This role positions them as crucial players in shaping a sustainable future.

The 2001 conference on "Education for Sustainability: Towards the World Summit on Sustainable Development" at the University of Luneburg highlighted the crucial role of education in shaping policies and practices that foster a just, sustainable, and peaceful world. According to the conference declaration, the ultimate goal of education for sustainable development is to create awareness and impart the knowledge, values, attitudes, and skills necessary for empowering individuals to achieve sustainability (HEPS, 2003). The emphasis is on quality education that incorporates contemporary knowledge and responds to societal challenges and opportunities for a sustainable future.

Furthermore, the Education Partnership for Sustainability (HEPS, 2003) emphasized that those who understand the need for change, possess the necessary knowledge and skills, and respect decisions and actions related to sustainable development are considered sustainability literate. This literacy is crucial for fostering an informed and proactive populace that can effectively contribute to sustainability goals.

The World Report on Higher Education (2008) also highlights the role of higher education in enhancing social integration, democracy, economic well-being, and sustainability. It underscores the importance of higher education institutions in driving societal progress and supporting sustainable development initiatives. These institutions not only contribute to economic and social advancements but also play a vital role in promoting environmental sustainability and fostering a culture of sustainability awareness.

Education is instrumental in advancing sustainable development. By leading the charge in sustainability efforts and integrating relevant knowledge into curricula, educational institutions prepare individuals to meet current and future sustainability challenges. They foster a knowledgeable and skilled populace equipped to address complex issues related to climate change, energy efficiency, and global citizenship. The ongoing commitment to integrating sustainable practices within education systems will significantly impact the realization of global sustainability goals and the creation of a more

equitable and sustainable world for future generations.

Conclusion

Sustainable development is imperative for addressing the global challenges of the 21st century, and education plays a pivotal role in this process. Effective education can serve as a powerful catalyst for achieving sustainable development goals (SDGs) by equipping individuals with the knowledge and skills necessary to navigate and address complex global issues. In Nigeria, however, the education system struggles to meet the demands of a modern, sustainable economy. Despite operating in a contemporary economic context, Nigeria's education system remains anchored in outdated practices, emphasizing traditional methods and academic qualifications over the development of practical skills relevant to today's job market. This misalignment contributes to high unemployment rates and a growing disconnect between educational outcomes and labor market needs. Furthermore, inadequate infrastructure, insufficient resources, and a shortage of qualified teachers exacerbate the challenges facing the education sector, hindering its ability to contribute effectively to sustainable development.

Recommendations

To address these challenges and enhance the role of education in sustainable development, the following recommendations are proposed:

1. **Government Investment in Education:** The Nigerian government must prioritize substantial investment in the education sector, aligning with UNESCO's recommendation to allocate at least 26% of the annual budget to education (UNESCO, 2024). This increased funding is crucial for improving educational infrastructure, resources, and quality, thereby supporting sustainable development goals.
2. **Curriculum Realignment with Sustainable Development Goals:** Educational curricula should be realigned to address a wide range of sustainable development issues, including health, human rights, conflict resolution, ethics, gender equality, poverty alleviation, and environmental sustainability. Integrating these topics into both formal and informal education will better prepare students to contribute to sustainable development (UNDP, 2024).
3. **Embedding Sustainable Development in Education:** Sustainable development

concepts should be embedded into educational programs to ensure they become central to students' lives. This involves formal and informal teaching methods that promote sustainability as a core principle, fostering a culture of awareness and action (HEPS, 2003).

4. **Skill Development for Stakeholders:** All stakeholders, including students, community members, professionals, and practitioners, should be encouraged to develop skills essential for advancing sustainable development. This can be achieved through targeted training programs, workshops, and collaborative projects that emphasize practical application (Sarabhai, 2006).
5. **Reorientation of Education Systems:** A comprehensive reorientation of the education system at all levels is necessary to include the principles, skills, and values associated with sustainable development. Curricula should be updated to reflect contemporary challenges and equip students with relevant knowledge and abilities (UNDP, 2024).
6. **National Conference on Education:** Organizing a national conference on education in Nigeria will facilitate discussions among stakeholders from the public and private sectors to develop strategies for educational reform. The outcomes of these discussions should be formalized into legislative proposals and enacted into law to ensure long-term impact (World Report on Higher Education, 2008).

Contribution to Knowledge

The recommendations presented here contribute to the body of knowledge on education for sustainable development by addressing specific challenges and proposing actionable solutions tailored to the Nigerian context. By emphasizing the need for substantial investment in education, realignment of curricula with sustainable development goals, and the integration of sustainability principles into educational practices, this study provides a framework for transforming Nigeria's education system to better support sustainable development.

Moreover, the recommendations underscore the importance of stakeholder involvement and skill development, highlighting the need for a collective effort to advance sustainable development. The proposed national conference represents a significant step towards fostering

collaboration among various sectors to address systemic issues within the education system. These insights contribute to the broader discourse on the role of education in achieving sustainable development, offering practical solutions that can be adapted and implemented in similar contexts globally. By addressing the gaps in Nigeria's education system and aligning it with contemporary sustainability challenges, this study offers valuable perspectives for policymakers, educators, and researchers working towards a more sustainable and equitable future.

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