ACCESSING THE IMPACT OF GOVERNMENT SECTORAL EXPENDITURE ON EDUCATION TOWARDS ACHIEVING SDG GOALS AND ECONOMIC GROWTH IN NIGERIA.

Ayima Lott PhD

Emmanuel University, Raleigh, NC, USA

ayimalott1@gmail.com

Abstract

This study examines the impact of government sectoral expenditure on education towards achieving Sustainable Development Goals (SDGs) and economic growth in Nigeria. Despite being Africa's largest economy, Nigeria faces a persistent paradox: substantial economic potential coexists with profound deficits in human capital development and sustainable development outcomes. The study employs a comprehensive review of theoretical and empirical literature, drawing on human capital theory (Lucas, 1988), endogenous growth theory (Romer, 1990a, 1990b), and the sustainable development framework to analyse education expenditure patterns, structures, and challenges. The analysis reveals that federal education expenditure, while increasing nominally from ₦1.54 trillion in 2023 to ₦3.52 trillion in 2025, declined proportionally from 10.75% of the national budget in 2015 to just 5.47% in 2025, falling far below UNESCO's recommended 15%–20% benchmark. Capital expenditure declined by 18.1% in 2025, signalling a worrying retreat from infrastructure investment, while over ₦97 billion in UBEC matching grants remained unaccessed due to states' inability to provide counterpart funding. The education sector continues to confront profound structural challenges: dilapidated infrastructure, acute teacher shortages with a teacher-pupil ratio of 1:35, outdated curricula misaligned with labour market demands, and persistently weak links between expenditure outlays and measurable development outcomes with only 66% of public-school students able to read at least one paragraph of text and approximately 18.3 million children out of school. These deficits directly impede progress toward SDG 4 (Quality Education) and undermine human capital formation necessary for SDG 8 (Decent Work and Economic Growth). The study provides evidence-based policy recommendations for scaling up education expenditure, improving expenditure composition, strengthening budget execution and governance, addressing teacher shortages, reforming curricula, and leveraging innovative financing mechanisms to enhance the effectiveness of education spending in Nigeria.

Keywords: Education expenditure, economic growth, Sustainable Development Goals, human capital, Nigeria, public spending

Introduction

Sustainable development and inclusive economic growth are critical policy goals for developing countries, and human capital development is regarded as a key factor in the future prosperity of countries. Human capital theory argues that investment in education increases individuals' productivity, develops skills to develop them and accelerates knowledge production and hence contributes to economic growth (Lucas, 1988). Endogenous growth theory further posits that education, technological innovation, and knowledge spillovers are the endogenous drivers of growth (Romer, 1990a, 1990b). In 1992, Mankiw, Romer, and Weil showed that human capital is a major factor in the differences in income between countries and found that it is in fact a key factor in different countries as well (Pelinescu, 2015; Sarwar et al., 2021). In the Nigerian context, Keji (2021) showed that human capital investment has a positive and significant impact on economic growth, similar to Krokeyi and Niyekpemi (2021) and Okoh (2025).

Government spending on education is the primary policy instrument through which states can influence human capital formation. Osuji and Nwani (2020) investigated whether government expenditure structures matter in the achievement of SDGs and concluded that expenditure composition and efficiency are critical determinants of SDG progress. Guerrero and Castañeda (2022) found that the allocation of expenditure is important to sustainable development outcomes and Sama, Oumar and Ndam (2025) found that public spending structure has an important role to play in sustainable economic development. Alonso-Morales, Sáez-Martín and Haro-de-Rosario (2025) also offered evidence of the social aspect of public spending in the context of sustainable development.

Nigeria is a particularly interesting case study for the intersection of education expenditure growth and SDG. As the continent's largest economy, Nigeria remains challenged in translating economic growth into inclusive human development. Education was ₦3.52 trillion in the Federal budget in

2026, which is only 6.17% of total expenditure (a decrease from 7.87% in 2025) and far below UNESCO's 15% -20% target. The results of this underinvestment also translate into more sustainable development objectives: 34.6% of SDG indicators showed regression, and to achieve the SDG targets, Nigeria needs about US$31.5 billion per year (United Nations, 2025).

This article assesses the impact of government sectoral expenditure on education on the achievement of the SDG objectives and economic growth in Nigeria. It aims to:

(1) examine the trend and structure of government education expenditure in Nigeria from 1985 to 2025,

(2) estimate the short-run and long-run impacts of education expenditure on economic growth;

(3) assess the contribution of education expenditure to SDG 4 (Quality Education) and related goals;

(4) compare the growth impact of expenditure on primary, secondary and tertiary education; and

(5) provide evidence-based policy recommendations on how to increase the effectiveness of education expenditure.

Statement of the Research Problem

The Research Problem. Nigeria is Africa’s largest economy in terms of human and natural resources, but it is also the country that has a fundamental paradox in its economic potential, which is undermined by a lack of human capital development and sustainable development performance. The core of this paradox is the chronic underfunding of education that remains a major obstacle to

inclusive growth and the SDGs. In the 2026 budget, education was allocated only 6.17% of all expenditure (compared to 7.87% in 2025) and well below the 15%–20% level recommended by UNESCO in sustainable education financing. There is evidence that human capital investment is the key to economic growth (Lucas, 1988; Mankiw et al., 1992; Romer, 1990a).

The consequences of underinvestment are becoming more apparent. Nigeria's Third Voluntary National Review (United Nations High-Level Political Forum 2025), the country's fourth annual review, indicated that 34.6 percent of the country's SDG indicators showed regression and that the achievement of SDG targets will cost US$31.5 billion annually (United Nations, 2025). The education sector has its own set of challenges, including poor facilities, teacher shortages, obsolete curricula that are not aligned with labour market requirements, and poor learning outcomes—with at least 66% of public-school students not able to read at least one paragraph of text (National Bureau of Statistics, 2025). These deficiencies are hindering progress towards SDG 4 (Quality Education) and human capital generation that is crucial for SDG 8 (Decent Work and Economic Growth).

The present literature on education expenditure and economic growth in Nigeria is certainly valuable, but suffers from some significant deficiencies. First, the majority of studies have evaluated aggregate education expenditure and lacked a detailed understanding of the impact of school expenditure (primary, secondary, tertiary), which might be different for different education levels (Keji, 2021; Krokeyi & Niyekpemi, 2021). Second, education spending and SDG achievement in Nigeria have only been studied in isolation in this country. Most of the current research has been on growth outcomes and SDG progress (Osuji & Nwani, 2020; Guerrero & Castañeda, 2022). Thirdly, short-term and long-term effects of education expenditure are poorly understood in Nigeria, due to the macroeconomic challenges and fiscal constraints. Fourthly, how

expenditure levels, institutional quality and expenditure efficiency are related to development outcomes are not well understood in Nigeria, but institutional weaknesses are important in determining the efficiency of public spending (Urama et al., 2025; Teorell et al., 2025).

These gaps in knowledge are particularly significant when Nigeria's development challenges are so pressing and fiscal resources are limited. Without a detailed empirical understanding of how education expenditures affect growth and development outcomes, policymakers cannot efficiently use scarce public resources to achieve growth and progress, nor are they able to provide evidence-based programs that address the structural constraints that hinder effective spending. And as Nigeria approaches the 2030 deadline for SDG achievement, the need for evidence-based policy guidance has never been more urgent. This study addresses the fundamental research challenge of exploring the impact of government sectoral expenditure on education towards SDG goals and economic growth in Nigeria, in order to provide the empirical foundation for fiscal and educational policymaking.

Conceptual Review

In this section, we review the conceptual underpinning of the study: education expenditure, economic growth, human capital, and sustainable development goals. These concepts and their interdependence form the theoretical basis for empirical analysis in the following.

Concept of Education Expenditure

Education expenditure refers to public resources allocated to the education sector, including recurrent expenditure (salaries, administration, maintenance) and capital expenditure (infrastructure, equipment, facilities). In Nigeria, education expenditure is funded at multiple levels by the federal, state, and local governments, with the federal government funding tertiary

education and the state and local governments primary and secondary education. According to Osuji and Nwani (2020), government expenditure (the composition of the expenditure, the allocation mechanism, and the implementation efficiency) is critical to the success of development. Guerrero and Castañeda (2022) considered government expenditure as an inter-faceted policy tool that contributes to sustainable development through human capital formation, infrastructure development, and social service use.

Concept of Economic Growth

Economic growth is usually defined as the increase in the inflation-adjusted market value of goods and services produced by an economy over time, which is measured by the real GDP or GDP per capita. Nelson and Plosser (1982) distinguish between trend growth and cyclical fluctuations and education expenditure and how this is related to the long-run and short-run effects of education expenditure. In the Nigerian case, GDP grew at a rate of 4.0% in Q3 2025 (National Bureau of Statistics 2025), but this is a very low figure, and it does not capture the sectoral differences in growth and is not inclusive. Education expenditure has an impact on economic development by increasing labour productivity and the adoption of technology and innovation (Romer 1990a, 1990b).

Concept of Human Capital

Human capital is the knowledge, skill set, skills, and competences of individuals that make up people's capacity to improve personal, social, and economic well-being. Lucas (1988) developed a view on human capital as being an important element in economic development. He said that investment in education provides positive externalities in terms of knowledge spillovers and tech

diffusion. Mankiw, Romer, and Weil (1992) used human capital as part of the neoclassical growth model and showed that it is a huge factor in terms of cross-country income differences. In Nigeria, Keji (2021) and Krokeyi and Niyekpemi (2021) showed that human capital has a positive and important impact on growth, while Okoh (2025) has shown that better education results in higher labour productivity and job prospects. Pelinescu (2015) says that human capital contributes to growth in various ways such as innovation capacity, technology absorption, and institutional quality.

Concept of Sustainable Development Goals

The United Nations adopted the Sustainable Development Goals (SDGs) in 2015, which have 17 goals and 169 targets to achieve sustainable development in social, economic, and environmental dimensions by 2030. SDG 4 (Quality Education) aims to achieve inclusive and equitable quality education and to provide lifelong learning opportunities for all (Allen et al., 2018), with universal primary and secondary education, equal access to technical and vocational education, and the elimination of gender disparities in education as targets. Carlsen and Bruggemann (2022) assessed global SDG progress and found regions to be in need of policy and to address challenges in developing countries. In Nigeria, 34.6% of SDG indicators showed regression based on the Third Voluntary National Review, making policy interventions crucial (United Nations, 2025). The link between education expenditure and SDG achievement is mediated by human capital formation. Education spending should be adequate and efficient to meet SDG 4 and related goals like SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth) (Osuji & Nwani, 2020; Sama et al., 2025).

These four concepts are interrelated: education expenditure is the policy instrument through which governments invest in human capital, human capital creation drives economic growth, and sustainable development provides the framework for assessing progress towards inclusive and equitable development outcomes. The effectiveness of this conceptual chain, however, depends critically on expenditure efficiency, institutional quality, and the alignment of spending priorities with developmental objectives (Urama et al., 2025; Teorell et al., 2025).

Literature Review

This section reviews the theoretical and empirical literature on the link between education expenditure, human capital development, economic growth, and sustainable development goals, with particular focus on Nigeria and Sub-Saharan Africa.

Theoretical Literature

Human capital theory and endogenous growth theory are the main theoretical ideas used in this study. Lucas (1988) proposed human capital theory in the context of education investment and showed that education investment increases productivity and creates positive externalities through knowledge transfer and technological diffusion. Romer (1990a, 1990b) extended the study with endogenous growth theory and showed that human capital accumulation is an important driver of technological innovation and economic growth. Mankiw, Romer, and Weil (1992) introduced human capital to the neoclassical growth model and demonstrated that human capital is a factor in cross-country income differences. These theoretical sources provide the basis for understanding how education expenditure leads to growth and development.

Empirical literature on human capital and economic growth.

There is a vast body of empirical literature that has studied the relationship between human capital and economic growth in various contexts. Pelinescu (2015) has found that there is a robust correlation between human capital, financial development, and economic growth in European countries, and quality of education is also a crucial factor. Sarwar et al. (2021) also found that human capital and economic growth positively interact in emerging countries and that financial development would be a complementary factor. Siddiqui and ur Rehman (2016) showed that the human capital-growth nexus is through improved labour productivity and technological adoption in East and South Asian economies.

In the African context, Ogundari and Awokuse (2018) found that human capital is a very important factor in the economic growth of Sub-Saharan Africa, especially health and education. Wirajing, Nchofoung, and Etape (2023) found a strong positive correlation between human capital and economic growth in Africa, which underscores the need for policy interventions in education and health and the impact of health on the development of human capital. Ofori, Kuuwill, and Quaye (2024) found that human capital development, together with institutional quality, can lead to inclusive growth outcomes; this means that the investment in human capital is funded by the institutions.

In Nigeria, Keji (2021) demonstrated that human capital investment has a positive and significant impact on economic growth based on time series and autoregressive distributed lag (ARDL) methodologies. Krokeyi and Niyekpemi (2021) also confirmed that education expenditure and health expenditure have a significant impact on the development of Nigeria. Okoh (2025) also found that improvements in educational outcomes increase labour productivity and employment prospects, which also contribute to inclusive growth.

Empirical literature on Government Expenditure and Sustainable Development.

The relationship between government expenditure and sustainable development has received increasing attention. Osuji and Nwani (2020) investigated the importance of government expenditure frameworks to achieve the Sustainable Development Goals (SDGs) and found that expenditure composition and efficiency are very important for the SDGs in Nigeria. Guerrero and Castañeda (2022) explored the interrelation between government budgets and development gaps and found that allocation patterns impact sustainable development outcomes across countries. Sama, Oumar, and Ndam (2025) found that public spending structure has a material impact on sustainable economic growth. Education and health expenditure are particularly important.

Alonso-Morales, Sáez-Martín, and Haro-de-Rosario (2025) provide empirical evidence on the role of local public spending in achieving the social dimension of sustainable development and show that expenditure efficiency is as important as expenditure levels. Ríos et al. (2026) studied the relationship between SDG achievement and government financial sustainability and identified trade-offs between development goals and fiscal sustainability. Alonso-Morales et al. (2024) specifically examined the impact of financial sustainability on SDG 2 achievement in the public sector and highlighted the need for sustainable public finance frameworks.

Institutional quality and expenditure effectiveness.

The effectiveness of government expenditure is key to the quality of the institution. Urama et al. (2025) studied the institutional quality-economic growth connection in Nigeria and found that governance quality is at the heart of the relationship between public spending and development results. Teorell et al. (2025) have shown that institutional quality is a significant determinant of

public expenditure effectiveness in countries. Thus, addressing institutional weaknesses is crucial for increasing growth and development returns to education expenditure.

Scale and trends in education expenditure. Knowledge about the scale and trends of government education expenditure is important in assessing Nigeria's commitment to human capital development and sustainable development goals. This section looks at education funding at the individual, international, and state levels and finds still significant underinvestment despite the recent nominal increases.

Aggregate Federal Education Expenditure

At the federal level, Nigeria's education budget has been nominal but declining in proportional importance. In 2025, Nigeria's federal education budget was ₦3.52 trillion, which was a nominal increase of 61.47% from 2024 (National Bureau of Statistics, 2025). However, it is also indicative of a worrying trend in which the proportional share of education in the total federal budget has declined from 10.75% in 2015 to 5.47% in 2025 (Budget Office of the Federation, 2025). This increase in proportional allocation was despite rising numbers of students enrolled, deteriorated infrastructure, and the pressures on the education system. Osuji and Nwani (2020) pointed out that these allocations show a fundamental mismatch between fiscal priorities and development, and education is always on the back burner as compared to other sectors like defence and infrastructure. The decline is particularly concerning because education expenditure is the primary policy instrument through which governments invest in human capital formation and drive long-term economic growth (Lucas, 1988; Romer, 1990a).

International Comparisons

International comparisons show the extent of Nigeria's underinvestment in education. Education expenditure in Nigeria is about 3% of GDP, far below the global standard of 4%–6% recommended by UNESCO for sustainable education financing (UNESCO, 2025). Even worse, the federal government's education budget is only 0.3% of GDP, compared to South Africa's 6.1%, Ghana's 4.2%, and Kenya's 5.3% (World Bank, 2025), respectively. Global comparison of education expenditure in Nigeria's economy shows that it is a much smaller percentage of its economy that is allocated to education than many of its regional neighbours with much worse educational performance (low enrolment rates, poorer learning outcomes, and reduced infrastructure). Guerrero and Castañeda (2022) found that countries that spend more on education as a percentage of GDP consistently have better sustainable development outcomes, and thus this is why funding is needed. Sama, Oumar, and Ndam (2025) also found that public spending on education has significant implications for sustainable economic development, with higher spending associated with improved human capital indicators and growth outcomes.

State-Level Education Expenditure

At the subnational level, state education budgets are ₦3.6 trillion in 2025, up from ₦1.6 trillion in 2023 (National Bureau of Statistics, 2025). At the national level, education is increasingly recognised to be a vital function, and primary and secondary education are entrusted to the state. However, even at this level, education spending at the state level is still much lower than UNESCO's targets. Many states allocate less than 10% of their budget to education, while there are wide differences between state and state in fiscal capacity, political priorities, and governance quality (Budget Office of the Federation, 2025). Alonso-Morales, Sáez-Martín, and Haro-de-Rosario (2025) found that local public spending is directly linked to the social dimension of

sustainable development, and in order to achieve the SDG, state-level education funding must be increased. The underfunding at federal and state levels, despite nominal growth, underscores the need for comprehensive fiscal reforms and expenditure prioritisation to achieve SDG 4 (Quality Education) and related development objectives.

Expenditure Structure Analysis

A comprehensive understanding of Nigeria's education financing requires disaggregating spending by institutional level, by type (capital versus recurrent), and by tier of government (federal versus state). This structural analysis reveals significant disparities in resource allocation that have profound implications for educational outcomes and sustainable development.

Allocation by Educational Level

The 2026 federal education budget reveals a pronounced skew in resource allocation toward tertiary education, particularly universities. According to the budget breakdown, universities received the largest share at ₦966.9 billion, while polytechnics and colleges of education were allocated ₦382 billion collectively (Tribune Online, 2026). Education parastatals received ₦633.3 billion. This allocation pattern reflects a long-standing prioritisation of university education over technical and vocational institutions, despite the critical role of polytechnics and colleges of education in producing middle-level manpower and trained teachers. The disparity is further amplified by the Tertiary Education Trust Fund (TETFund) 2026 intervention cycle, which allocated ₦2,525,932,228.02 per university, ₦1,871,059,920.53 per polytechnic, and ₦2,056,527,973.04 per college of education (TETFund, 2026). This disproportionate funding of universities relative to other tertiary institutions raises concerns about the balance of human capital

development, particularly given the labour market's demand for technical and vocational skills. Osuji and Nwani (2020) argued that such skewed expenditure patterns reflect a fundamental misalignment between fiscal priorities and sustainable development objectives.

Capital versus Recurrent Expenditure

A more fundamental structural challenge lies in the composition of education spending between capital and recurrent expenditure. In 2025, capital spending declined by 18.1% compared to the previous year, dropping from ₦1.15 trillion to ₦938.58 billion (BusinessDay, 2026). This signals a worrying retreat from infrastructure investment. While the nominal education budget increased to approximately ₦3.52 trillion, a significant portion continues to be absorbed by recurrent expenditure—primarily salaries and overheads—leaving capital projects and quality improvements chronically underfunded (Budget Office of the Federation, 2025). This pattern is not new; decades of funding have been characterised by recurrent expenditure dominating the education budget, with capital investment receiving inadequate attention. The implications are profound: dilapidated classrooms, insufficient laboratory equipment, outdated library resources, and inadequate teaching facilities persist as binding constraints on educational quality. As Echono observed, infrastructural limitations, digital constraints, and teacher shortages continue to hinder the education system's full potential (TETFund, 2026). Guerrero and Castañeda (2022) demonstrated that countries with higher capital expenditure on education consistently achieve better sustainable development outcomes.

Federal versus State Burden-Sharing

The distribution of education financing between federal and state governments reveals a complex picture of increasing state commitment alongside persistent shortfalls. State-level education spending increased from ₦1.6 trillion in 2023 to ₦3.6 trillion in 2025, representing a significant expansion of subnational investment (BusinessDay, 2025). States collectively increased education budgets by 53% in 2025 (Leadership, 2025). However, the Nigeria Governors' Forum acknowledged that execution gaps remain a major challenge, with increased budgetary allocations not necessarily translating into improved educational outcomes (New Telegraph, 2025). Furthermore, despite these increases, state-level education spending still falls far short of UNESCO's recommended thresholds, and significant inter-state disparities persist. The federal government's education budget increased from ₦1.54 trillion in 2023 to ₦3.52 trillion in 2025, more than doubling under the current administration (Guardian, 2025). Yet, as a proportion of total expenditure, education's share declined from 7.87% in 2025 to 6.17% in 2026, well below UNESCO's recommended 15%–20% benchmark (Arise TV, 2026). Sama, Oumar, and Ndam (2025) found that public spending on education has significant implications for sustainable economic development, with higher spending associated with improved human capital indicators and growth outcomes.

Key Challenges Facing the Education Sector

Despite nominal increases in education funding, the sector continues to confront profound structural challenges that undermine the effectiveness of public expenditure and perpetuate poor development outcomes. These challenges operate across multiple dimensions—infrastructure, human resources, curriculum, governance, and outcomes—and collectively explain the weak link between education spending and measurable development progress.

Infrastructure Deficits

Nigeria's educational infrastructure remains in a state of profound decay. Across the country, classrooms suffer from dilapidated structures, inadequate flooring, poor lighting, and insufficient ventilation (BusinessDay, 2025). Sanitation challenges are widespread, with over one-third of schools facing inadequate toilet facilities and unreliable water supply (New Telegraph, 2026). Laboratory equipment is grossly insufficient for practical science education, while library subscriptions are outdated and unable to support modern research and learning. Only 10% of technical colleges have internet access, with 58 students sharing a single teacher (New Telegraph, 2026). UNESCO data indicates that 60% of classrooms and workshops require window rehabilitation (UNESCO, 2025). These infrastructure deficits are not merely cosmetic; they fundamentally constrain the quality of teaching and learning, limit student engagement, and perpetuate poor educational outcomes.

Teacher Shortages and Pedagogical Quality

Nigeria faces a deepening teacher shortage that threatens the very foundation of its education system. Currently, only 915,913 teachers serve 31,771,916 pupils in public and private primary schools, resulting in a teacher-pupil ratio of 1:35—well above UNESCO's recommended 1:25 (Punch, 2025; UBEC, 2025). This shortage is compounded by deficiencies in teacher quality, with many educators lacking adequate training, professional development opportunities, and motivation. The reliance on outdated, rote-learning pedagogical techniques further diminishes the quality of instruction. These human resource deficits are exacerbated by inadequate remuneration, poor working conditions, and limited career progression pathways, which together undermine teacher morale and exacerbate attrition rates. Keji (2021) and Krokeyi and Niyekpemi (2021)

established that human capital development exerts a positive and significant impact on economic growth, highlighting the importance of addressing teacher quality.

Outdated Curricula and Graduate Employability

The Nigerian education system continues to operate with curricula that are fundamentally misaligned with contemporary labour market demands. Courses and programmes often fail to equip graduates with the practical skills, digital competencies, and critical thinking abilities required for gainful employment. This misalignment contributes to a growing number of unemployable graduates and a widening skills gap. The situation is particularly acute in technical and vocational education, where weak industry linkages and obsolete equipment undermine the relevance of training. Despite recent curriculum reforms, implementation has been hasty and inadequate, with insufficient teacher training and resources to support effective delivery. Okoh (2025) confirmed that improved educational outcomes enhance labour productivity and employment prospects, underscoring the need for curriculum reform.

Weak Budget Execution and Counterpart Funding Gaps

The effectiveness of education expenditure is severely compromised by weak budget execution and governance failures. A significant challenge is the underutilisation of federal matching grants under the Universal Basic Education (UBEC) scheme. As of March 2026, over ₦97 billion in UBEC funds remained unaccessed due to states' inability or refusal to provide the required 50% counterpart funding (Tribune Online, 2026; ThisDay, 2026). This pattern of non-compliance has left billions of naira in federal matching grants unused, with 27 of Nigeria's 36 states failing to meet counterpart funding requirements. The cumulative unaccessed funds stood at

₦97,881,553,326.94 (Falana, 2026). This represents not merely a fiscal inefficiency but a profound governance failure that directly denies millions of Nigerian children access to basic education. While UBEC has recently facilitated the mobilisation of over ₦100 billion in previously unaccessed grants (Guardian, 2026), the underlying governance weaknesses persist. Urama et al. (2025) found that governance quality significantly mediates the relationship between public spending and development outcomes in Nigeria.

Weak Link Between Expenditure and Development Outcomes

Perhaps the most fundamental challenge is the persistently weak link between education expenditure outlays and measurable development outcomes. Despite nominal increases in education funding, indicators of educational quality and learning outcomes remain alarmingly poor. Only 66% of public-school students can read at least one paragraph of text (National Bureau of Statistics, 2025). The high rate of out-of-school children persists, with approximately 18.3 million Nigerian children currently out of school (UNICEF, 2025). Limited research outputs from tertiary institutions reflect the systemic weaknesses in the higher education sector. This disconnect between spending and outcomes reflects the cumulative effect of the structural challenges enumerated above: funds allocated do not translate into improved infrastructure because capital expenditure is inadequate and poorly executed; funds do not translate into better teaching because teacher shortages and quality deficits remain unaddressed; funds do not translate into better learning because curricula remain outdated and pedagogies ineffective. As the Nigeria Governors' Forum acknowledged, execution gaps remain a major challenge (New Telegraph, 2025), underscoring the need for comprehensive reforms that address not only the quantity of education spending but also its quality, efficiency, and developmental impact. Alonso-Morales, Sáez-Martín,

and Haro-de-Rosario (2025) found that expenditure efficiency is as important as expenditure levels in achieving sustainable development outcomes.

Policy Recommendations

The empirical findings and structural analysis presented in this study yield several actionable, evidence-based policy recommendations for enhancing the effectiveness of government education expenditure in Nigeria towards achieving SDG goals and economic growth.

Scaling Up Education Expenditure

First, Nigeria must substantially increase its education expenditure to meet internationally recognised benchmarks. The current allocation of 6.17% of the federal budget and approximately 3% of GDP falls dangerously below UNESCO's recommended thresholds of 15%–20% of national budgets and 4%–6% of GDP (UNESCO, 2025). The federal government should commit to a phased annual increase of at least 2 percentage points in education's budget share, reaching the 15% benchmark by 2030. Similarly, state governments should be incentivised through enhanced fiscal transfers and conditional grants to allocate at least 15% of their budgets to education. Osuji and Nwani (2020) demonstrated that expenditure composition and efficiency are critical determinants of SDG progress, underscoring the importance of adequate funding levels. Sama, Oumar, and Ndam (2025) further found that public spending structures have significant implications for sustainable economic development, reinforcing the need for increased education investment.

Improving Expenditure Composition and Efficiency

Second, the government must address the structural imbalance between recurrent and capital expenditure. The 18.1% decline in capital spending in 2025 represents a fundamental threat to educational quality and infrastructure development (BusinessDay, 2026). A minimum of 40% of education expenditure should be allocated to capital investment, focusing on infrastructure rehabilitation, laboratory equipment modernisation, library upgrades, and digital infrastructure expansion. Guerrero and Castañeda (2022) demonstrated that expenditure allocation patterns significantly shape sustainable development outcomes, with capital investment playing a particularly important role. Furthermore, the disproportionate allocation of funds to universities relative to polytechnics and colleges of education should be rebalanced to strengthen technical and vocational education, addressing the critical skills gap in the Nigerian labour market.

Strengthening Budget Execution and Governance

Third, comprehensive reforms are required to address the systemic weaknesses in budget execution and governance that undermine expenditure effectiveness. The persistent underutilisation of UBEC matching grants—with over ₦97 billion remaining unaccessed as of March 2026 (Falana, 2026; Tribune Online, 2026)—represents a profound governance failure that directly denies millions of Nigerian children access to basic education. The federal government should consider revising the counterpart funding requirement to 25% for states with limited fiscal capacity, while simultaneously strengthening monitoring and enforcement mechanisms to ensure compliance. Urama et al. (2025) found that governance quality significantly mediates the relationship between public spending and development outcomes in Nigeria, highlighting the importance of institutional

reforms. Alonso-Morales, Sáez-Martín, and Haro-de-Rosario (2025) further found that expenditure efficiency is as important as expenditure levels in achieving sustainable development outcomes.

Addressing Teacher Shortages and Pedagogical Quality

Fourth, urgent interventions are needed to address the deepening teacher shortage and pedagogical quality deficits. With only 915,913 teachers serving 31,771,916 pupils—a teacher-pupil ratio of 1:35, well above UNESCO's recommended 1:25 (Punch, 2025; UBEC, 2025)—the government should implement a comprehensive teacher recruitment, training, and retention strategy. This should include increased funding for teacher education institutions, enhanced remuneration packages, improved working conditions, and continuous professional development programmes. Keji (2021) and Krokeyi and Niyekpemi (2021) established that human capital development exerts a positive and significant impact on economic growth, underscoring the importance of teacher quality.

Curriculum Reform and Labour Market Alignment

Fifth, comprehensive curriculum reform is essential to align educational outcomes with labour market demands. Courses and programmes should be redesigned to incorporate practical skills, digital competencies, and critical thinking abilities. Stronger industry linkages should be established through enhanced partnerships with private sector employers, internship programmes, and work-integrated learning opportunities. Okoh (2025) confirmed that improved educational outcomes enhance labour productivity and employment prospects, highlighting the importance of

curriculum relevance. The government should also strengthen technical and vocational education through increased investment, equipment modernisation, and industry engagement.

Leveraging Innovative Financing Mechanisms

Sixth, Nigeria should explore innovative financing mechanisms to supplement traditional budgetary allocations. This includes debt-for-education swaps, public-private partnerships, and results-based financing arrangements. The HOPE-EDU programme, supported by the World Bank with $552 million in funding, should be fully leveraged to drive foundational education reforms (World Bank, 2025). Additionally, the government should strengthen the monitoring and evaluation framework to ensure that education expenditure translates into measurable improvements in learning outcomes and SDG indicators. De Francesco, Pattyn, and Salamon (2024) found that robust monitoring and evaluation are essential for SDG progress, reinforcing the importance of accountability mechanisms.

Conclusion

This study has examined the impact of government sectoral expenditure on education towards achieving SDG goals and economic growth in Nigeria. The analysis reveals a persistent pattern of inadequate and declining education investment despite nominal increases in absolute terms. Federal education expenditure, which increased from ₦1.54 trillion in 2023 to ₦3.52 trillion in 2025, saw its proportional share of the national budget decline from 10.75% in 2015 to just 5.47% in 2025, falling well below UNESCO's recommended 15%–20% benchmark. International comparisons reveal that Nigeria's education expenditure hovers around 3% of GDP, significantly

trailing the global benchmark of 4%–6% and comparable African nations such as South Africa, Ghana, and Kenya.

The structural analysis reveals significant challenges in expenditure composition and efficiency. Capital expenditure declined by 18.1% in 2025, signalling a worrying retreat from infrastructure investment. Recurrent expenditure continues to dominate the education budget, leaving capital projects and quality improvements chronically underfunded. The disproportionate allocation of resources to universities relative to polytechnics and colleges of education raises concerns about the balance of human capital development and the labour market's demand for technical and vocational skills. The weak execution of education budgets, exemplified by the over ₦97 billion in unaccessed UBEC matching grants, represents a profound governance failure that directly undermines educational outcomes.

These expenditure challenges are compounded by profound structural issues facing the education sector: dilapidated infrastructure, acute teacher shortages, outdated curricula misaligned with labour market demands, and persistently weak links between expenditure outlays and measurable development outcomes. Only 66% of public-school students can read at least one paragraph of text, while approximately 18.3 million Nigerian children remain out of school. These deficits directly impede progress toward SDG 4 (Quality Education) and undermine the human capital formation necessary for achieving SDG 8 (Decent Work and Economic Growth) and related sustainable development objectives.

The policy recommendations derived from this analysis emphasise the need for increased education expenditure, improved expenditure composition, strengthened budget execution and governance, comprehensive teacher reforms, curriculum alignment with labour market demands,

and innovative financing mechanisms. These recommendations are grounded in the empirical evidence presented and the theoretical frameworks of human capital theory (Lucas, 1988), endogenous growth theory (Romer, 1990a, 1990b), and the sustainable development framework (Osuji & Nwani, 2020; Guerrero & Castañeda, 2022).

References

Allen, C., Metternicht, G. and Wiedmann, T. (2018), "Initial progress in implementing the Sustainable Development Goals (SDGs): a review of evidence from countries", Sustainability Science, Vol. 13 No. 5, pp. 1453-1467, doi: 10.1007/s11625-018-0572-3.

Alonso-Morales, N., Gil-Garcıa, P., Saez-Martın, A. and Haro-de-Rosario, A. (2024), "Analysis of the influence of financial sustainability on the achievement of SDG 2 in public sector", in Valls Martınez, M.d.C. and Santos-Jaen, J.M. (Eds), Environmentally Sustainable Production, Springer, Cham, doi: 10.1007/978-3-031-52656-5_9.

Alonso-Morales, N., Sáez-Martín, A., & Haro-de-Rosario, A. (2025). The role of local public spending in the achievement of the social dimension of sustainable development: An empirical analysis. *Sustainable Futures*, *9*, 100475.

Boar, A., Pinyana, E.P. and Oliveras-Villanueva, M. (2021), "Alternatives to solve SDG trade-offs and to enforce SDG synergies: a systematic literature review", Management of Environmental Quality, Vol. 33 No. 2, pp. 478-493, doi: 10.1108/MEQ-07-2021-0181.

Carlsen, L. and Bruggemann, R. (2022), "The 17 United Nations' sustainable development goals: a status by 2020", The International Journal of Sustainable Development and World Ecology, Vol. 29 No. 3, pp. 219-229,doi: 10.1080/13504509.2021.1948456.

Chen, C.W. (2023), "Who wins and who loses in global SDGs rankings? Clarifying the influence of the North-South divide and foreign direct investment on spillover effects", Sustainable Development, Vol. 32 No. 3, pp. 2653-2665, doi: 10.1002/sd.2806.

Cordery, C.J. and Hay, D.C. (2022), "Public sector audit in uncertain times", Financial Accountability and Management, Vol. 38 No. 3, pp. 426-446, doi: 10.1111/faam.12299.

Cuadrado-Ballesteros, B., Ríos, A.M. and Guillamón, M.D. (2024), "Does gender explain the indebtedness levels of local governments?", Public Performance and Management Review, Vol. 47 No. 1, pp. 147-173, doi: 10.1080/15309576.2023.2269398.

De Francesco, F., Pattyn, V. and Salamon, H. (2024), "The monitoring and evaluation challenges of the sustainable development goals: an assessment in three European countries", Sustainable Development, Vol. 32 No. 3, pp. 1913-1924, doi: 10.1002/sd.2759.

Drastichova, M. (2020), "Cluster analysis of sustainable development goal indicators in the European Union", In: Bilgin M.H., Danis H., Karabulut G. and Gozgor G. (eds.), Eurasian Economic Perspectives. Eurasian Studies in Business and Economics, Vol. 12 No. 1, pp. 99-124, Luxembourg: Springer, doi: 10.1007/978-3-030-35040-6_7

Guerrero, O. A., & Castañeda, G. (2022). How does government expenditure impact sustainable development? Studying the multidimensional link between budgets and development gaps. *Sustainability Science*, *17*(3), 987-1007.

Keji, S. A. (2021). Human capital and economic growth in Nigeria. Future Business Journal, 7(1),2-8. https://doi.org/10.1186/s43093-021-00095-4.

Krokeyi, W. S., & Niyekpemi, B. O. (2021). Human capital and economic growth nexus in Nigeria. Journal of Global Economics and Business, 2(6), 31-49. doi: 10.31039/jgeb.v2i6.57.

Lucas, R. E. (1988). On the mechanics of economics and development. Journal of Monetary Economics, 22(1), 3-42. https://doi.org/10.1016/0304-3932(88)90168-7.

Mankiw, G. N., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. Quarterly Journal of Economics, 107(2), 407–437.

Michael, T. O., Asa, S. S., & Olubodun, T. (2024). Trends and risk indicators for high fertility among Nigerian female youth aged 15-29 years: a pooled data analysis. Heliyon, 10(18), e37946. doi: 10.1016/j.heliyon.2024.e37946.

National Bureau of Statistics. 2025. Nigerian gross domestic product report (Q3 2025). Abuja: NBS.https://microdata.nigerianstat.gov.ng/index.php/catalog/147/related-materials.

Nelson, C. R., & Plosser, C. I. (1982). Trends and random walks in macroeconomic time series: Some evidence and implications. Journal of Monetary Economics, 10(2), 139-162.

Ofori, P. E., Kuuwill, A., & Quaye, B. (2024). Effect of human capital development and institutional quality on inclusive growth in African countries. Cogent Economics & Finance, 12(1), 1-9. https://doi.org/10.1080/23322039.2024.2357155.

Ogundari, K., & Awokuse, T. (2018). Human capital contribution to economic growth in Sub-Saharan Africa: does health status matter more than education?. Economic Analysis and Policy, 58(13), 1-140. https://doi.org/10.1016/j.eap.2018.02.001.

Okoh, O. F. (2025). The impact of human capital development on economic growth in Nigeria. Malaysian Journal of Human Resources Management (MJHRM), 2(2), 84-89. http://doi.org/10.26480/mjhrm.02.2025.84.89.

Osuji, E., & Nwani, S. E. (2020). Achieving sustainable development goals: Does government expenditure framework matter?. *International Journal of Management, Economics and Social Sciences (IJMESS)*, *9*(3), 131-160.

Pelinescu, E. (2015). The impact of human capital on economic growth. Procedia Economics and Finance, 22: 184-190. doi: 10.1016/S2212-5671(15)00258-0.

Ríos, A. M., Raimo, N., Benito, B., Guillamón, M. D., & Vitolla, F. (2026). Sustainable goals, unsustainable debt? An empirical analysis of the sustainable development goals and government financial sustainability. *Journal of Economics, Finance and Administrative Science*, *31*(61), 180-202.

Romer, P. M. (1990a). Endogenous technological change. Journal of Political Economy, 98(5), S71–S102. https://doi.org/10.1086/261725.

Romer, P. M. (1990b). Capital, labor, and productivity. Brookings papers on economic activity. Microeconomics, 1990: 337–367. https://doi.org/10.2307/2534785.

Sama, M. C., Oumar, S. B., & Ndam, N. L. (2025). Public spending and sustainable economic development. *Studies in Economics and Finance*, *42*(2), 218-239.

Sarwar, A., Khan, M. A., Sarwar, Z., & Khan, W. (2021). Financial development, human capital and its impact on economic growth of emerging countries. Asian Journal of Economics and Banking, 5(1), 86-100. doi: 10.1108/AJEB-06-2020-0015.

Siddiqui, A., & ur Rehman, A. (2016). The human capital and economic growth nexus: in East and South Asia. Applied Economics, 1-14. doi: 10.1080/00036846.2016.1245841

Teorell, J., Sundström, A., Sören, H., Bo, R., Pachon, N. A., Mert, D. C., Valverde, R. L., Phiri, V. S., & Gerber, L. (2025). The Quality of Government Standard Dataset, Version Jan25. University of Gothenburg. The Quality of Government Institute. https://doi.org/10.18157/QoGStdJan25.

Urama, C. E., Ibezim, C. P., Amuka, J. I., Ameh, C. A., Urama, C. C., & Eze, A. A. (2025). Institutional quality and economic growth nexus: an empirical evidence from Nigeria. Journal of Business and Econometrics Studies, 2(3), 1-9. doi: doi.org/10.61440/JBES.2025.v2.69.

Wirajing, M. A. K., Nchofoung, T. N., & Etape, F. M. (2023). Revisiting the human capital–economic growth nexus in Africa. SN Bus & Econ, Vol. 3, No. 115: 1-29. https://doi.org/10.1007/s43546-023-00494-5. World Bank. 2020. Global economic prospects. Washington, DC: World Bank.