Original Article
ISSN (Online): 2454-1907

International Journal of Engineering Technologies and Management Research
June 2025 12(6), 32–50

PUBLIC EXPENDITURE ON EDUCATION IN INDIA: TRENDS AND IMPLICATIONS

Navneet Guleria [1], R.K. Mittal [2], Tejee Isha [3], Supriya Goutam [4]

[1] Chaudhary Banshi Lal University, Haryana, India
[2] Babasaheb Bhim Rao Ambedkar University (A Central University), Lucknow, India
[3] Faculty of Mass Communication and Media Technology, SGT University, Haryana, India
[4] Unitedworld Institute of Management, Karnavati University, Gandhinagar, Gujarat, India

Received 10 April 2025
Accepted 11 May 2025
Published 14 June 2025

Corresponding Author

Navneet Guleria,
navneetguleria989@gmail.com

DOI
10.29121/ijetmr.v12.i6.2025.1625

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

Public spending on education in India has risen sharply in recent decades, signaling transformative changes in the country's educational system. This study presents a detailed analysis of budgetary allocations, focusing on the distribution of funds across various levels of education. It identifies and evaluates key trends in public education expenditure, considering factors such as demographic shifts, economic conditions, and government policies. By examining financial patterns over time, the study aims to illuminate the shifting priorities of the Indian government in the education sector. Policymakers, educators, and other stakeholders must comprehend these tendencies in order to allocate resources and design policies with knowledge. The study also explores the makeup of educational spending, concentrating on how money is distributed to important areas including curriculum improvement, teacher pay, infrastructure development, and technology integration. The purpose of this compositional analysis is to identify sectoral priorities and evaluate whether budgetary allotments support more general goals of enhancing educational results and access. Additionally, the study investigates how public funds are allocated to primary, secondary, and postsecondary education levels. A better grasp of the government's dedication to meeting the varied educational demands of different age groups and academic stages can be gained by examining investment trends at these levels. All things considered, this study provides insightful information about the complex dynamics of Indian public spending on education. It offers crucial direction for developing policies meant to improve the caliber, accessibility, and inclusivity of education in the nation by offering a thorough examination of trends, composition, and allocations.

Keywords: Expenditure Trends, Educational Policy, Academic Investment, Funding, Development

1. INTRODUCTION

Education plays a crucial role in the socio-economic development of any country, and the allocation of public funds for education is a vital aspect of ensuring an effective and equitable education system. Public expenditure on education plays a pivotal role in shaping the educational landscape of a nation Smith (2018). In the Indian context, understanding the transformative journey of these expenditures is crucial for policymakers, educators, and researchers alike. This paper explores the distribution of public educational expenditures in India across various levels of the

education system, encompassing primary, secondary, and higher education. Drawing upon existing literature and statistical data, this analysis aims to shed light on the current state of educational funding in India.

1.1. BUDGETARY ALLOCATIONS AND SECTOR-WISE DISTRIBUTION

Government budgets reflect the priorities of a nation, and education is a cornerstone in this allocation process Jones (2019). The annual budgetary commitments to public education underscore the level of importance accorded to nurturing human capital in India Ministry of Finance (2023). Sector-wise distribution sheds light on the equitable allocation of resources across primary, secondary, and higher education Kumar (2020). This analysis explores whether the distribution aligns with the diverse educational needs of the population.

1.2. PUBLIC EXPENDITURE ON PRIMARY EDUCATION

Public investment in primary education is fundamental for laying a strong foundation for the overall education system. The Government of India has implemented various schemes and initiatives to enhance primary education. According to Kumar (2019), the allocation of public funds for primary education has increased in recent years, contributing to improvements in infrastructure, teacher training, and learning resources. The Sarva Shiksha Abhiyan (SSA) is one such flagship programme focusing on elementary education, indicating a commitment to promoting inclusive and quality primary education.

1.3. PUBLIC EXPENDITURE ON SECONDARY EDUCATION

Secondary education is a critical stage in an individual's academic journey, and adequate funding is necessary to ensure quality education and the development of necessary skills. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is a central government initiative aimed at enhancing the quality of secondary education. Kumar (2020) argues that increased public Expenditure in secondary education is imperative for addressing infrastructure gaps, providing teacher training, and fostering a conducive learning environment. Government efforts in this direction highlight the recognition of the significance of secondary education in India.

1.4. PUBLIC EXPENDITURE ON HIGHER EDUCATION

Higher education plays a pivotal role in shaping a skilled and knowledgeable workforce, contributing to economic growth. However, concerns have been raised regarding the adequacy of public funds allocated to higher education institutions in India. According to the University Grants Commission (2021), a considerable portion of public expenditure on higher education goes towards salaries and maintenance, leaving limited resources for research, infrastructure development, and quality enhancement. This suggests the need for a comprehensive review of funding mechanisms to ensure the sustainable growth of higher education institutions.

1.5. QUALITY OF SPENDING

The efficiency and efficacy of public expenditure on education are paramount Brown and Green (2017). Assessing the quality of spending encompasses evaluating the impact of financial allocations on tangible outcomes, such as infrastructure development, teacher quality, and curriculum enhancement World Health Organization (2022).

1.6. INCLUSIVE POLICIES

Inclusivity in education is a cornerstone of sustainable development UNESCO (2018). This section reviews the budgetary provisions for special education, scholarships, and programs targeting marginalised communities, providing insights into the commitment to creating an equitable education system.

1.7. TECHNOLOGICAL INTEGRATION

The digital revolution has transformed the way education is delivered OECD (2021). This review assesses the extent to which public education expenditures support technological integration, including investments in infrastructure, online learning resources, and teacher training in digital pedagogy.

1.8. PUBLIC-PRIVATE PARTNERSHIPS

Collaborations between the public and private sectors in education are dynamic and multifaceted Bhatia et al. (2019). This section examines the impact of public-private partnerships on infrastructure development, curriculum innovation, and overall educational outcomes. A comprehensive understanding of public expenditure on education in India is crucial for driving transformative change. Stakeholders can address issues and seize opportunities in the changing Indian education landscape by critically examining budgetary allocations, distribution patterns, spending quality, inclusivity, technological integration, and public- private partnerships.

2. REVIEW OF LITERATURE

Researchers have done numerous studies to determine the level of public expenditure on education in India.

Spending on public education makes up less than 4% of GDP, claim Anuradha and Tanuka (2008). Public spending on education increased at an annual rate of 13.4% at current prices between 1990–1991 and 2003–2004. At roughly 6.5% over the same time period, the growth rate was much lower when assessed at constant prices. The report emphasizes that a greater portion of state education funding comes from the federal government.

India spent ₹6.43 lakh crore (about $88 billion) of public expenditures on education in the 2019–20 fiscal year with the goal of improving the skills and knowledge of the populace. India should devote 6% of its GDP on education, according to numerous committees' repeated recommendations. The percentage of GDP spent on education increased from 2.8% in 2014–15 to 3.1% in 2019–20. For disadvantaged students, the Right to Education Act has been a vital source of support, allowing them to pursue higher education. Additionally, the Act requires schools to set aside a quarter of their admissions for these kids Khaitan (2021).

In the seven decades since India gained its independence, public spending in the education sector has grown significantly, claim Motkuri and Revathi (2020). The amount of money spent on public education climbed from a pitiful Rs. 1.8 in 1951–52 to Rs. 6337.9 in 2019– 20, while the total amount spent on public education increased from Rs. 64.5 crores to Rs. 849279 (at current values). Within the first five years, educational spending fell from 7.9% to 2.6% of total budgeted expenditure, according to Tilak (1986). Public spending on education is approximately 3. 6% of the GDP (gross domestic product) of our country. Comparing the current proportion to 1.2% in 1950–51 is notable, yet it is below the acceptable threshold established by the Kothari Commission in 1966.

The amount, trends, growth, and distribution of government spending on education in India between 2001–02 and 2014–15 are examined in the study by Ansar and Khan (2018). The national and state governments' spending on education was examined at numerous levels, both individually and collectively.

In 28 Indian states, public spending on education is directly correlated with GDP growth, according to Bhattacharyya (2019). Similarly, the goal of the author's paper "Public Expenditure on Education and Economic Growth: A State-level Analysis in India" was to ascertain if public spending is influenced by economic growth or the other way around. The study employed a co-integration test to ascertain the specified objectives and a Panel Vector Error Correction Model to analyze the short- and long-term dynamics. The analysis found a unidirectional and long-term causal relationship between public spending on education and economic growth. This implies that when GDP rises, states will be pressured to increase public investment.

Fadlli et al. (2019)used a Logic Model Framework to evaluate the effect of government spending on education. This quantitative study uses skewed panels to analyze data obtained from 10 NTB districts and cities between 2010 and 2016.The panel data regression technique is used to analyze the data. The study found that government spending on education has no effect on the education index. The study looks at trends in both intended and unexpected educational spending. The data analysis's findings demonstrate that while the percentage of federal government spending on education has increased, the percentage of state government spending on the education sector has decreased. Public spending on education has continued to account for less than 5% of GDP. At the end of the day, improving the nation's educational system must be a top priority for both the federal and state governments.

Taking macroeconomic considerations into account, Boca et al. (2018) investigated how government spending on schooling and early life experiences affected the cognitive capacities of fifteen-year-old children. Data from 19 European states' PISA, Eurostat, and World Bank WDI ratings were analyzed using multivariate analysis. Education policymakers ought to take note of the study's findings about the connection between socioeconomic conditions and the cognitive abilities of students as they work to establish priorities and stabilize funding for education.

The levels, patterns, expansion, and distribution of public spending in India's education system were studied by Ansari and Khan (2018). Examining educational spending trends, including both anticipated and unanticipated costs, is the main goal of the study. The results of the analysis indicate that while the federal government's part of education spending has increased, the state government's share has decreased. In order to improve the nation's human resource development, the

research recommends that both governments prioritize raising the standard of education in addition to making financial investments.

A study on "The Effectiveness of Public Spending on Education and Health Care in the Indian Economy" was carried out by Kundu (2018). The primary focus of the study is how government spending on health and education has influenced India's GDP growth during the previous three decades. Using the Vector Auto regression (VAR) model, the Johansen Co- integration test was used for analysis. According to the study's findings, India's fiscal framework has little bearing on how money is distributed, especially when it comes to public spending on healthcare and education.

In order to promote India's GDP growth during the past three decades, Kundu (2018) mainly looked at the impact of government spending on the health and education sectors. The Vector Autoregression (VAR) model was examined using the Johansen Co-integration test. According to the study's findings, India's fiscal structure somewhat affects how money is distributed, particularly when it comes to public spending on healthcare and education.

The cost-effectiveness of higher education was the subject of a case study by Das (2017) in his paper "A Study on Cost-Effectiveness of Higher Education with Specific Reference to Barama College." The purpose of the study was to assess if the government's declared goals had been achieved. The expense incurred would not be deemed effective if these goals were not met. This study was conducted using a cost-effectiveness analysis. Interviews and questionnaires were used to collect data. The results showed that in 1978, the college started to receive deficit grant-in-aid. Furthermore, there are currently four men for every female member of the teaching staff, despite suggestions to raise the proportion of female teachers.

The empirical relationship between public spending on primary, secondary, and post- secondary education and India's economic growth was examined by Chatterji et al. in 2015.Several econometric techniques, such as time series analysis for the years 1951–2011, were used to analyze the data. In addition, the order of integration of the variables was ascertained and short-term correlations were estimated using the Granger Causality Test, Vector Auto Regression (VAR) method, and Augmented Dickey Fuller (ADF) test.

The growing importance of public funding in Indian higher education is examined by Mitra (2015). The Benefit Incidence Analysis method was employed in the study to examine this occurrence. In order to determine whether there is a progressive or regressive tendency, the study also evaluates the distribution of financial aid in higher education across five quintile groups in 15 major states. Only a few states are considered progressive, according to the report, because the distribution of subsidies is biased toward the wealthy. The paper concludes by suggesting that public funding be encouraged in higher education rather than being replaced by private finance.

A 2011 study by Tamang, P. examined "The influence of education expenditure on India's economic growth." Restoring the relationship between education spending and the expansion of the Indian economy is the main goal of the research. The time-series data from 1980 to 2008 has been analyzed using an econometric model. The analysis found a consistent relationship between economic growth and educational investment. Additionally, the study uses the error-correction approach, which shows that physical capital per labor has a greater impact on economic growth than education spending per labor.

3. OBJECTIVES OF THE STUDY

The study has laid down the following two objectives for the study:

- To examine the trend, composition and the different levels at which the public expenditure on education in India incurred.
- To suggest ways for improving the effectiveness of public expenditure on education in India.

4. RESEARCH METHODOLOGY

The study will mostly rely on secondary data gathered from a variety of sources, such as union budgets, journal research publications, and internet data retrieved from the Ministry of Education's (MoE) official websites. Periodicals, publications, and other reliable websites will be the source of more data. The study will run from the fiscal year 2022–2023 until 2025–2026, a span of four years. A pre-period of 2017–2018 will also be taken into consideration to give a more comprehensive perspective. By combining pertinent information from reliable and official sources with historical data, this method guarantees a thorough study.

5. RESULTS

This study provides detailed information on the public money allotted to various education subsectors by the education departments of the states and union territories as well as the centre. Other government agencies also provide funding for education in addition to the Department of Education. An effort has been made to include the budget estimates of their education-related expenses in order to give a thorough picture of public spending on education nationwide. The costs of training and research and development initiatives are included in the expenditures of other departments. "The Central Budget includes the costs associated with the Centrally Sponsored Scheme of the Ministries/Departments of the Central Government."

5.1. TREND, COMPOSITION AND THE LEVELS OF PUBLIC EXPENDITURE ON EDUCATION IN INDIA

Table 1

Table 1 Budget Estimate for Expenditure on Education in the Year 2022-23, Specifically on the Revenue Account.

	Central Govt.	States/UTs	Total
Expenditure (Rs.in crore)	219516.03	681047.83	919145.19
Percentage Share with respect to total	24.27	75.73	100

Figure 1

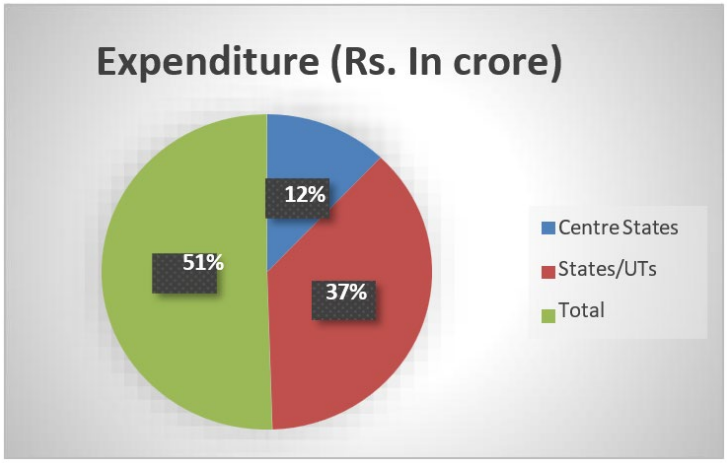

Figure 1 Expenditure on Education in the year 2022-23

Table 1 shows that States/UTs contribute approximately 76% of the overall revenue expenditure on education in the country, whereas the Centre contributes around 24% to the education sector as a whole. The total revenue account, amounting to Rs. 919,145.19 crore makes up 14.65% of the total budget for both the Centre and the States/UTs in the fiscal year 2022-23.

Table 2

Table 2 Shows the Sector-Wise Expenditure on Education Incurred by Education Departments of Both Centre and States

Sector	States/ UTs	States Percentage Share	Centre	Centre Percentage Share	Total Expenditure	Percentage Share
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Elementary Education	262215.98	49.63	50000.80	51.51	312216.78	49.92
Secondary Education	189917.51	35.95	9810.30	10.11	199727.81	31.94
Adult Education	637.73	0.12	23.80	0.02	661.53	0.11
Language Development	1984.86	0.38	535.93	0.55	2520.79	0.40
University & Higher Education	53615.15	10.15	20569.31	21.19	74184.46	11.86
Technical Education	14500.58	2.74	15532.80	1600	30033.38	4.80
General Education	5428.13	1.03	601.08	0.62	6029.21	0.96
Total Education	528299.93	100.00	97074.02	100.00	625373.95	100.00

Table 2 **Sector-wise expenditure on Education for 2022-23**

In the fiscal year 2022-23, Elementary Education constituted 49.92% of the overall education expenditure, while Secondary Education accounted for 31.94%. The proportion of University & Higher Education and Technical Education was 11.86% and 4.80% respectively. Figure 2 shows sector-wise expenditure on education for 2022-23.

Figure 2

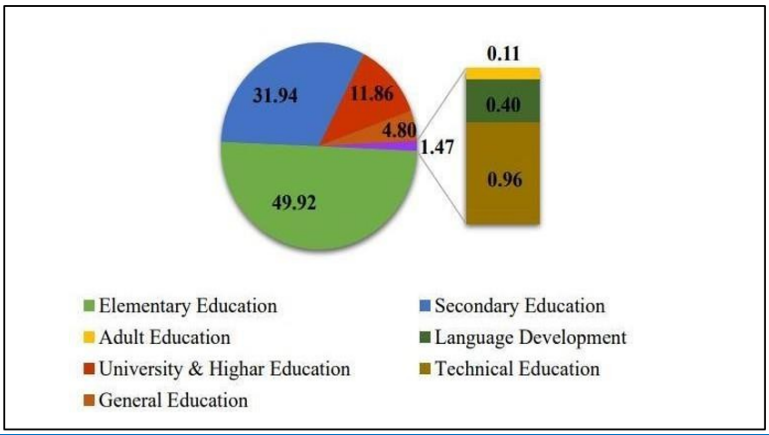

Figure 2 Sector-Wise Expenditure (Centre + States/UTs) for 2022-23

5.2. ANALYSIS OF BUDGETED EXPENDITURE

The budget projections for education in the fiscal year 2022–2023 from the Center and the education departments of the States and UTs increased to Rs. 647,975.19crore across all three accounts. This comprises Rs. 97,074.42 crore for the Center and Rs. 550,901.17 crore for the States and UTs. The allocation is made up of Rs. 625,373.95 crore under the Revenue Account, Rs. 21,742.55 crore under the Capital Account, and Rs. 858.69 crore under Loans & Advances. The corresponding percentages of these are 2.30 percent, 0.63%, and 9.97 percent, regardless of the overall budgetary provisions.

For the fiscal year 2022–2023, the Center and the States/UTs spent a total of Rs. 875,429.35 crore on education and training across all three accounts, according to the Revised Estimates. This comprised Rs. 618.62 crore under Loans & Advances, Rs. 11,693.18 crore under the Capital Account, and Rs. 863,117.55 crore under the Revenue Account. The States/UTs contributed Rs. 673,674.63 crore to this amount, while the Center provided Rs. 201,754.72 crore. Interestingly, 12.65% of the total Revised Estimates of expenditure went for education. Across all three accounts (Revenue Account, Capital Account, and Loans and Advances), the Education Departments of the Center and the States/UTs spent a total of Rs. 503,769.09 crore on education during the fiscal year 2019–20 (Actual). This includes Rs. 426,053.68 crore for the States/UTs and Rs. 77,715.41 crore for the Center. This amount represents 8.71% of the total amount spent on all three accounts by the Center and States/UTs. According to the breakdown, Rs. 493,760.55 crore is under the revenue account, Rs. 9,326.7 crore is under the capital account (which is separate from the revenue account), and Rs. 681.78 crore is under loans and advances.The budgeted education spending by departments (Revenue Account) from 2022–2023 (Actual) to 2022–2023 (BE) is displayed in Figure 3.

Figure 3

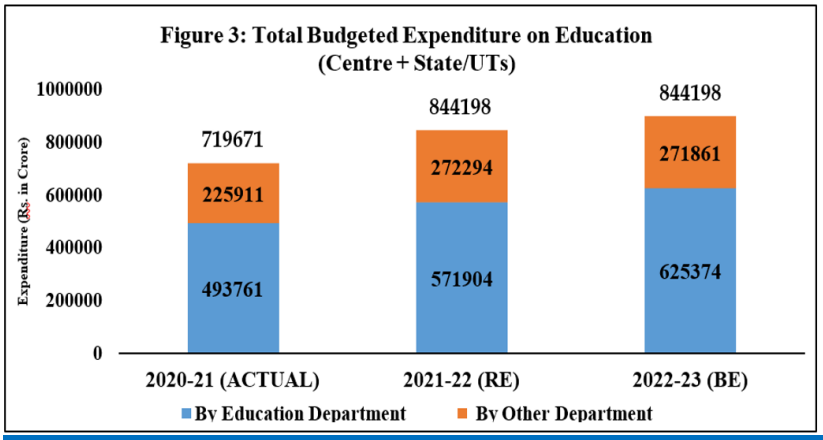

Figure 3 Budget Expenditure on Education-by-Education Departments and Other Departments

Figure 4

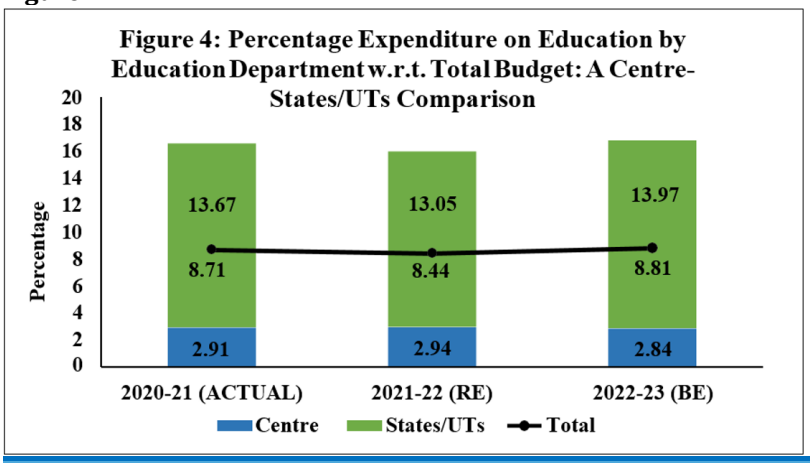

Figure 4 Percentage Expenditure on Education-by-Education Department: A Comparison Centre/States/UTs

Figure 5

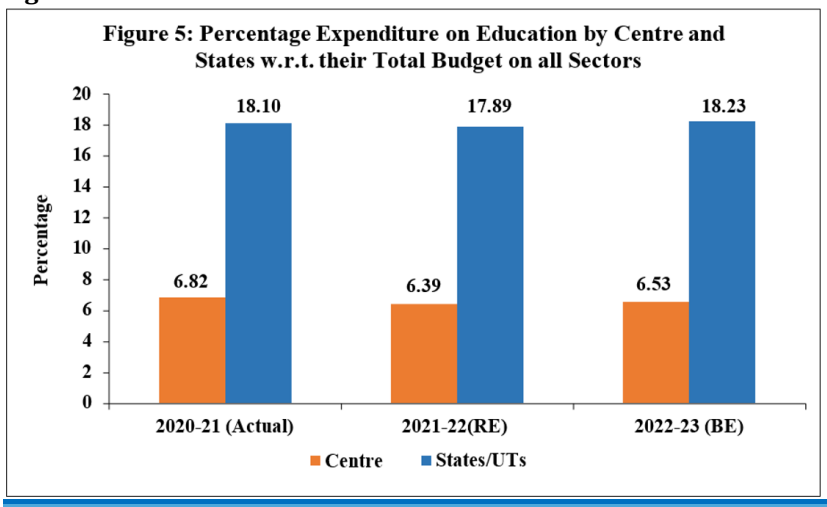

Figure 5 Percentage Expenditure on Education by Centre and States.

Table 3 illustrates the budget allocations on the Revenue Account for education compared to training (Formal & Informal) both at the Centre and in the States/Union Territories. Corresponding Table 3, Figure 6(i) and Figure 6(ii) for the year 2022-23 indicate that 3.04% of the total Centre's Budget for Education is allocated to training. In comparison, the corresponding figure for States is 2.17%.

Table 3

Table 3 Budgeted Expenditure on Education and Training (Revenue Account)

	ACTUAL (2020-21)			REVISED ESTIMATE (2021-22)			BUDGET ESTIMATE (2022-23)		
	CENTRE	STATES/UTs TOTAL		CENTRE	STATES/UTs	TOTAL	CENTRE	STATES/UTs	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	EDUCATION								
EDUCATION	77715.41	416045.14	493760.55	92664.72	479239.47	571904.19	97074.02	528299.93	625373.95
DEPARTMENTS									
	(3.44)	(15.70)	(10.05)	(3.49)	(14.93)	(9.75)	(3.30)	(15.84)	(9.97)
OTHER	98931.31	126979.59	225910.91	103979.52	168314.59	272294.12	119208.51	152652.35	271860.86
DEPARTMENTS									
	(4.37)	(4.79)	(4.60)	(3.92)	(5.24)	(4.64)	(4.05)	(4.58)	(4.33)
	176646.725	43024.73	719671.46	196644.24	647554.06	844198.31	216282.53	680952.28	897234.81
TOTAL									
	(7.81)	(20.50)	(14.65)	(7.41)	(20.17)	(14.40)	(7.35)	(20.42)	(14.30)
	TRAINING								
	5492.47	11417.33	16909.80	5110.48	13808.77	18919.25	6771.80	15138.57	21910.37
TOTAL									
	(0.24)	(0.50)	(0.34)	(0.19)	(0.43)	(0.32)	(0.20)	(0.45)	(0.35)
	182139.195	54442.06	736581.25	201754.72	661362.83	863117.55	223054.33	696090.85	919145.19
GRAND TOTAL									
	(8.05)	(20.93)	(15.00)	(7.60)	(20.60)	(14.72)	(7.58)	(20.88)	(14.65)

Figure 6

Figure 6 (1) Share of Budget Provision for Education and Training–Centre

Figure 6

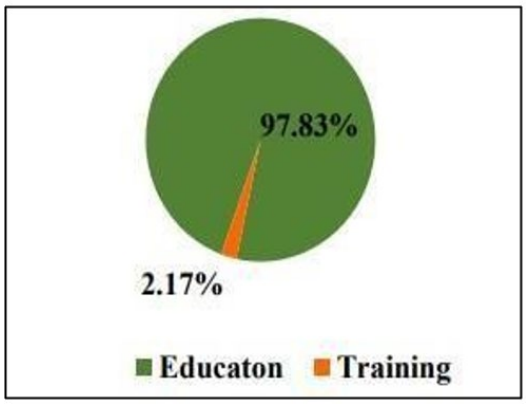

Figure 6 (2) Share of Budget Provision for Education and Training -States

Table 4

Table 4 Budget Expenditure on Education by Ministry of Education of Central Government (Revenue Account)

S. No.		2020-21 (ACTUAL)	2021-22 (REVISED ESTIMATE)	2022-23 (BUDGET ESTIMATE)
(1)	(2)	(3)	(4)	(5)
	DEPARTMENTOFSCHOOLEDUCATIONANDLITERAC (SE & L)			
1	Elementary Education	35547.11	45991.13	50000.80
2	Secondary Education	12459.33	10527.97	9810.30
3	Adult Education	57.66	12.23	23.80
TOTAL(SE&L)		**48064.10**	**56531.33**	**59834.90**
	DEPARTMENTOFHIGHEREDUCATION(HE)			
1	University & Higher Education	13676.53	16909.01	17263.31
2	Development of Language	457.91	494.37	535.93
3	Distance Learning and Technical Enabled Learning	532.02	661	574.00
4	Planning, Administration, Global Engagement and Book Promotion	346.78	516.97	601.08
5	Student Financial Aid	2344.95	2776	2732.00

6	Technical Education	12293.12	14776.04	15532.80
TOTAL HIGHER EDUCATION		**29651.31**	**36133.39**	**37239.12**
GRAND TOTAL (SE&L+ HE)		**77715.41**	**92664.72**	**97074.02**

Table 4 displays the allocation of the Department of Education's budget among key sectors for the fiscal year 2022–2023.Elementary education is the primary recipient of Rs. 50,000.80 crore, or 51.51% of the overall budget. With an allocation of Rs. 20,569.31 crore, or 21.19%, University & Higher Education (including DL & Student Finance) is the second-highest priority. Third place goes to Technical Education, which gets Rs. 15,532.80 crore, or 16.0 percent of the whole budget. Then, Rs. 9,810.30 crore, or 10.11%, is set aside for secondary education. Minor allotments include Rs. 23.80 crore (0.02%) for adult education, Rs. 535.93 crore (0.55%) for language development programs, and Rs. 601.08 crore (0.62%) for general purposes, which include foreign cooperation and research. The Department of Education's major financial allocations for the various education sectors for the designated fiscal year are summarized in this brief overview.

Figure 7

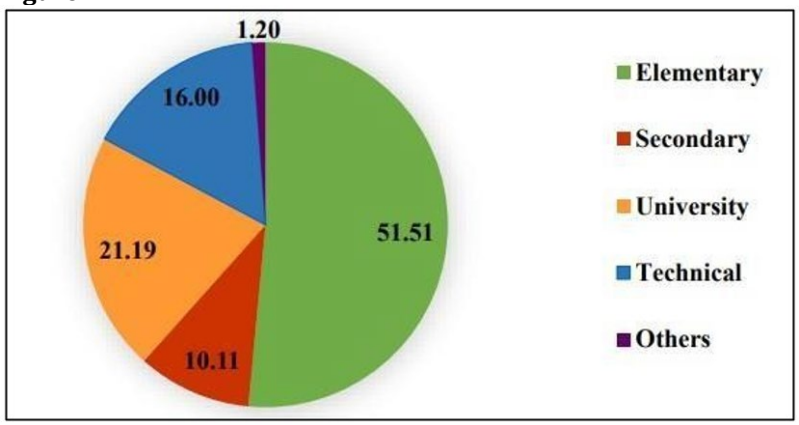

Figure 7 Various Sub-Sectors in the Central Budget (Revenue Account)

5.3. IMPACT OF EDUCATION EXPENDITURE ON ECONOMIC GROWTH

Figure 8 displays the annual breakdown of the percentage of overall education spending. The national gross domestic product (GDP) for each state and the total are displayed in Table 4. This graph shows that overall education spending as a percentage of GDP has started to rise, going from 3.84 percent in 2013–14 to 4.64 percent in 2022–23.

Table 5

Table 5 Public Expenditure on Education as Percentage of GDP Sector-Wise (Estimated)

S.NO.	SECTOR	EXPENDITURE (RS. INC RORE) OF TATES/UTSCENTRE		TOTAL	EXPENDITURE (AS% GDP) STATES/UTSCENTRETOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Elementary Education	229694	61053.73	290747.	1.	0.	1.
2	Secondary Education	20	21399.45	93	22	32	5

3	University & Higher Education	172053.	31641.50	193452.	0.	0.	4
4	Adult Education	11	57.66	56	91	11	1.
5	Technical Education	67169.	67986.86	98810.	0.	0.	0
Total (Education)		554442.06	182139.19	736581.25	2.93	0.96	3.90
Year2021-22(RE)GDP:-Rs.20074856crore(2ndRevisedEstimate)							
1	Elementary Education	279823.34	74452.80	354276.14	1.39	0.37	1.76
2	Secondary Education	185765.47	17043.22	202808.69	0.93	0.08	1.01
3	University & Higher Education	85179.76	37257.86	122437.62	0.42	0.19	0.61
4	Adult Education	511.18	12.23	523.41	0.00	0.00	0.00
5	Technical Education	110083.09	72988.62	183071.70	0.55	0.36	0.91
Total (Education)		661362.83	201754.72	863117.55	3.29	1.01	4.30
Year2022-23(BE)GDP:-Rs.19800914crore(1stRevisedEstimate)							
1	Elementary Education	307736.64	84178.50	391915.14	1.55	0.43	1.98
2	Secondary Education	198848.79	16516.06	215364.85	1.00	0.08	1.09
3	University & Higher Education	83769.20	38780.70	122549.90	0.42	0.20	0.62
4	Adult Education	637.73	23.80	661.53	0.00	0.00	0.00
5	Technical Education	105098.49	83555.27	188653.76	0.53	0.42	0.95
Total (Education)		**696090.85**	**223054.33**	**919145.19**	**3.52**	**1.13**	**4.64**

Table 6

Table 6 Year 2020-21						
	Column1	***Column2***	***Column3***	***Column4***	***Column5***	***Column6***
Column1	1					
Column2	0.925432459	1				
Column3	0.9955312	0.957078816	1			
Column4	0.999994761	0.925366171	0.99551067	1		
Column5	0.923445036	0.999979164	0.95555346	0.9233822	1	
Column6	0.995453376	0.957314156	0.99999912	0.995434337	0.955791	1

In the table that is provided, the "Expenditure as % of GDP" column shows the percentage of GDP that each sector's expenditures represent.

Elementary Education: Strong positive correlation with itself (correlation coefficient of 1). Moderately positive correlation with Secondary Education (0.935), University & Higher Education (0.996), and Total Education Expenditure (0.996).

The expenditure on elementary education, comprising contributions from states/UTs and the central government, amounts to 1.22% and 0.32% of GDP, respectively. The total expenditure on elementary education, considering both states/UTs and the centre, is 1.54% of GDP.

Secondary Education: Strong positive correlation with itself (correlation coefficient of 1). Moderately positive correlation with Elementary Education (0.935), University & Higher Education (0.961), and Total Education Expenditure (0.961).

For secondary education, the expenditure represents 0.91% and 0.11% of GDP from states/UTs and the central government, respectively. The total expenditure on secondary education is 1.02% of GDP.

University & Higher Education: Strong positive correlation with itself (correlation coefficient of 1). Moderately positive correlation with Elementary Education (0.996), Secondary Education (0.961), and Total Education Expenditure (0.996).

The expenditure on university and higher education accounts for 0.36% and 0.17% of GDP from states/UTs and the central government, respectively, with a total of 0.52% of GDP.

Adult Education: Near-zero correlation coefficients imply extremely weak relationships with other sectors. Given that both the federal government and the states/UTs exhibit 0%, there appears to be little spending on adult education in relation to GDP.

Technical Education: Strong positive correlation with itself (correlation coefficient of 1). Moderately positive correlation with Elementary Education (0.934), Secondary Education (0.961), University & Higher Education (0.934), and Total Education Expenditure (0.961). Expenditure on technical education represents 0.45% and 0.36% of GDP from states/UTs and the central government, respectively. The total expenditure on technical education is 0.81% of GDP. Strong positive correlation with itself (correlation coefficient of 1). Moderately positive correlation with all individual sectors, indicating that total expenditure is highly correlated with expenditure in each specific sector. The "Total (Education)" row summarises the combined expenditure across all education sectors, showing that the total expenditure on education, considering both states/UTs and the central government, is 2.93% of GDP, with states/UTs contributing 2.93% and the central government contributing 0.96%, amounting to a total of 3.9% of GDP. These percentages provide insights into the financial commitment of both the states/UTs and the central government towards education relative to the national GDP, highlighting the importance and prioritisation of education within the overall economy.

Table 7

Table 7 Year 2021-22						
	Column1	***Column2***	***Column3***	***Column4***	***Column5***	***Column6***
Column1	1					
Column2	0.935201	1				
Column3	0.996461	0.961659	1			
Column4	0.999995	0.934841	0.996371	1		
Column5	0.934702	0.999955	0.961262	0.934318	1	
Column6	0.996462	0.961649	0.999999	0.996374	0.961256	1

Elementary Education: Expenditure as % of GDP for elementary education has a strong positive correlation with secondary education (0.935) and university & higher education (0.996). This suggests that when the expenditure as % of GDP increases for elementary education, it tends to increase for secondary education and university & higher education as well.

Secondary Education: Expenditure as % of GDP for secondary education shows a strong positive correlation with elementary education (0.935) and university & higher education (0.962). Similar to elementary education, when the expenditure as % of GDP increases for secondary education, it tends to increase for elementary education and university & higher education.

University & Higher Education: There are significant positive associations between university and higher education spending as a percentage of GDP and both primary and secondary education (0.996). education (0.962). This implies that, as a percentage of GDP, these industries typically exhibit similar spending tendencies.

Adult Education: There appears to be no expenditure on adult education relative to GDP in the given data. Therefore, correlations involving adult education are not applicable.

Technical Education: There are strong positive relationships between technical education spending as a percentage of GDP and elementary education (0.996), secondary education (0.961), and university and higher education (0.961). This suggests that spending on technical education as a proportion of GDP typically follows trends in other educational areas.

These correlations provide insights into how the expenditures as percentages of GDP for different education sectors are related to each other. Strong positive correlations suggest that increases in expenditure as a percentage of GDP in one sector tend to coincide with increases in other sectors, indicating potential interconnectedness or common factors influencing expenditure decisions.

Table 8

Table 8 Year 2022-23						
	Column1	***Column2***	***Column3***	***Column4***	***Column5***	***Column6***
Column1	1					
Column2	0.921636	1				
Column3	0.995402	0.95457	1			
Column4	0.999999	0.922151	0.995528	1		
Column5	0.921658	0.999971	0.95458	0.922169	1	
Column6	0.995491	0.954287	0.999999	0.995615	0.954299	1

Elementary Education: Expenditure as % of GDP for elementary education has a strong positive correlation with secondary education (0.922) and university & higher education (0.995). This suggests that when the expenditure as % of GDP increases for elementary education, it tends to increase for secondary education and university & higher education as well.

Secondary Education: Expenditure as % of GDP for secondary education shows a strong positive correlation with elementary education (0.922) and university & higher education (0.955). Similar to elementary education, when the expenditure as % of GDP increases for secondary education, it tends to increase for elementary education and university & higher education.

University & Higher Education: Expenditure as % of GDP for university & higher education displays strong positive correlations with both elementary education (0.995) and secondary education (0.955). This suggests that these sectors tend to have aligned expenditure patterns as a percentage of GDP.

Adult Education: There appears to be no expenditure on adult education relative to GDP in the given data. Therefore, correlations involving adult education are not applicable.

Technical Education: Expenditure as % of GDP for technical education shows strong positive correlations with elementary education (0.995), secondary education (0.954), and university& higher education (0.954). This indicates that

technical education expenditure as a percentage of GDP tends to move in tandem with expenditures in other education sectors.

These correlations provide insights into how the expenditures as percentages of GDP for different education sectors are related to each other. Strong positive correlations suggest that increases in expenditure as a percentage of GDP in one sector tend to coincide with increases in other sectors, indicating potential interconnectedness or common factors influencing expenditure decisions.

The Center's portion of the GDP has steadily grown over time, according to an analysis of the distribution between the Center and the States. From 0.51% in 2000-01 to 1.11% in 2010-11, it saw a two-year drop before reaching 1.13% in 2022-23. In fiscal year 2000-01, the state's share was 3.63%; in fiscal year 2022-23, it was 3.52%.

According to states, territories, and the federal government, Table 5 displays the projected public spending on education by sector as a percentage of GDP for the 2020–21 (Actual), 2021–22 (Revised Estimates), and 2022–23 (Budget Estimates) years. Of all the education subsectors, elementary education will have the greatest budget in 2020–21, making up over 1.76 percent of GDP. Secondary education will follow closely behind, at about 1.00 percent. Adult education (0.00%), university and higher education (0.62%), and technical education (0.91%) are the subsectors that make up the least amount of GDP. Table 5 shows the breakdown of budgeted spending by state or territory as a proportion of GDP.

Separating the percentage shares of GDP for the Centre and the States, it is clear that the Centre's share has been steadily rising over the years, rising from 0.51% in 2000-01 to 1.11% in 2010-11, and then, after a little decrease in two years, has recently recovered to 1.13% in 2022-23. The percentage that the state contributed fell from 3.63 percent in 2000–01 to 3.52% in 2022–23.

Figure 8

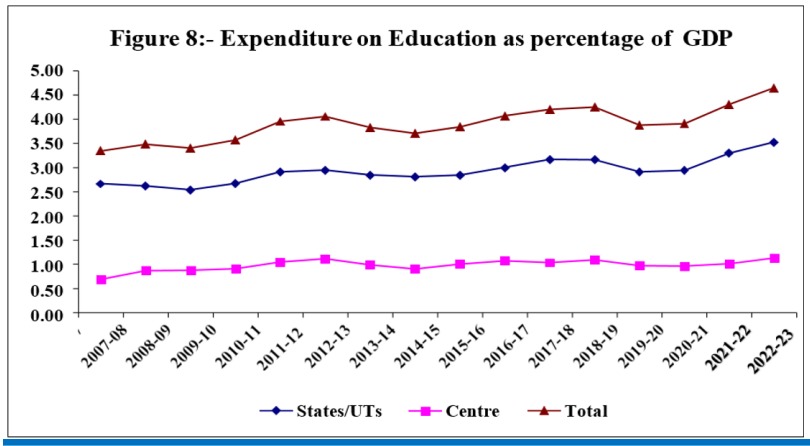

Figure 8 Expenditure on Education as Percentage of GDP

Budget projections for 2020–21, updated projections for 2022–23, and actual education spending by sector as a percentage of GDP, broken down by state, territory, and center, for 2020–21, 2021–22, and 2022–23, respectively. With a budget of approximately 1.76 percent of GDP, elementary education will have the largest budget of any of the education subsectors in 2022–2023, followed by secondary education at around 1.00 percent. Adult education contributes the least to GDP of any subsector, at 0.00%, followed by higher education and universities at

around 0.62% and technical education at roughly 0.91%. Budgetary allotment to states and territories as a percentage of GDP.

Figure 9

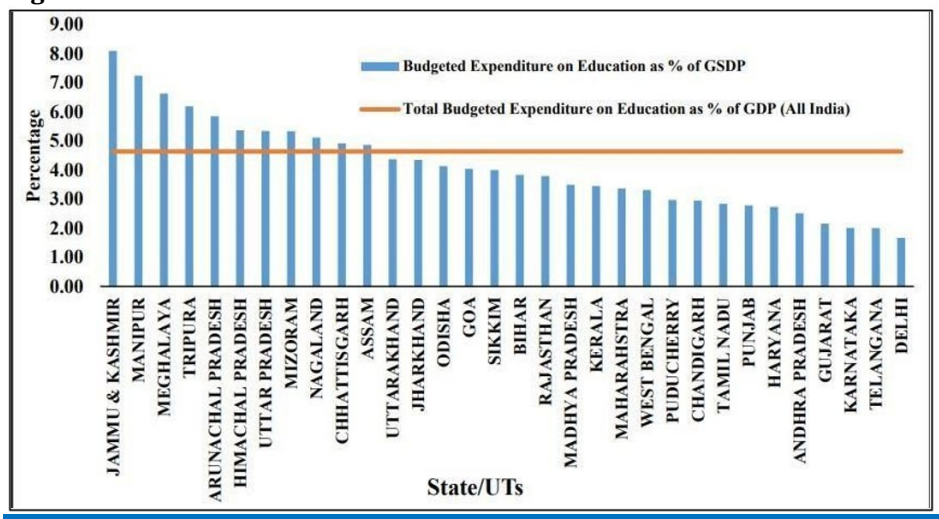

Figure 9 Expenditure on Education as Percentage of GSDP

The relationship between the gross state domestic product for various states and union territories and the budgeted expenditure on education for every department on the revenue account is depicted in the Figure 8 graph. The purpose of this data is comparative analysis. According to the graph, major states like Andhra Pradesh, Bihar, Chandigarh, Delhi, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh, and West Bengal have lower percentages of education spending compared to the national average (4.64%).

6. SUMMARY

This report provides a detailed analysis of public expenditure budgeted by the education departments of States/UTs and the Centre across various education sub-sectors. Notably, it incorporates expenditure from departments beyond education, ensuring a comprehensive overview of public spending on education, covering training and research and development activities. Expenditure on Centrally Sponsored Schemes is excluded from State budgets to prevent double counting.

In the fiscal year 2022-23, budget provisions for education on the revenue account amounted to Rs. 625,373.95 crore, a 9.35% increase from the previous year. Capital works provisions, including loans, wereRs.22,601.24 crore. Considering both revenue and capital accounts, the total budget estimates for education in 2022-23 by State and Centre Education Departments reached Rs. 647,116.5 crore, constituting 8.96% of the total budget estimates.

Budget provisions for education and training in 2022-23 increased to Rs. 941,746.42 crore, forming 12.80% of the total budget. Percentage provisions for education and training for respectiveaccountsare14.65%undertheRevenueAccount,2.30%undertheCapitalAccount, and 0.63% under Loans and Advances. The budget estimates for education by the Centre and States/UTs rose to Rs. 647,975.19 crore in 2022-23.

Noteworthy allocations were made for various education sectors, with elementary education receiving the highest share of 51.51%, followed by University & Higher Education (21.19%) and Technical Education (16.00%). The report also details the Ministry/Department-wise central budget provision for education and training, constituting 6.53% of the total central budget in 2022-23.

Sector-wise estimated public expenditure on education as a percentage of GDP, revealing variations among States/UTs. Figure 8 shows a state-wise relationship between budgeted expenditure on education and Gross State Domestic Product, indicating that several major states lag behind the national average of 4.64%.

7. CONCLUSION

The allocation of public funds for education throughout the many tiers of the Indian educational system is a complex matter that necessitates considerable thought. Building a strong and just educational system requires enough funding at the elementary, secondary, and higher education levels. Initiatives from the government, such SSA and RMSA, show a dedication to solving these issues. To guarantee that the educational demands of all facets of the population are satisfied, it is crucial to regularly review and reevaluate how monies are being distributed. Additionally, since experienced instructors are essential to the success of any educational system, efforts should be focused on attracting and retaining talent.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

REFERENCES

Ansari, T. H., & Khan, M. A. (2018). An Analysis of Public Expenditure on Education in India. World Wide Journal of Multidisciplinary Research and Development, 4(4), 89-92.

Bhatia, R., Jain, T., & Lim, Y. (2019). On the Bures-Wasserstein Distance Between Positive Definite Matrices. Expositiones Mathematicae, 37(2), 165-191. https://doi.org/10.1016/j.exmath.2018.01.002

Bhattacharyya, P. (2019). Public Expenditure on Education and Economic Growth: A State-Level Analysis in India. Humanities & Social Sciences Reviews, 7(6), 533-539. https://doi.org/10.18510/hssr.2019.7683

Chatterji, M., Mohan, S., & Dastidar, S. G. (2015). Determinants of Public Education Expenditure: Evidence from Indian States. International Journal of Education Economics and Development, 6(1), 1-19. https://doi.org/10.1504/IJEED.2015.068355

Das, J. (2017). A Study on Cost-Effectiveness of Higher Education with Particular Reference to Barama College. IOSR Journal of Humanities and Social Science, 22(4), 36-38. https://doi.org/10.9790/0837-2204043638

Del Boca, D., Monfardini, C., & See, S. G. (2018). Government Education Expenditures, Pre-Primary Education and School Performance: A Cross-Country Analysis. Ssrn Electronic Journal. https://doi.org/10.2139/ssrn.3172649

Fadlli, D., et al. (2019). The Effect of Government Expenditure on Education Performance in NTB (2010-2016). International Journal of Scientific & Technology Research, 8(7), 868-876.

Fonchamnyo, D. C., & Sama, M. C. (2016). Determinants of Public Spending Efficiency in Education and Health: Evidence from Selected CEMAC countries. Journal of Economics and Finance, 40, 199-210. https://doi.org/10.1007/s12197-014-9310-6

Gavurova, B., et al. (2017). Relative Efficiency of Government Expenditure on Secondary Education. Journal of International Studies, 10(2), 329-343. https://doi.org/10.14254/2071-8330.2017/10-2/23

Jones, M. (2019). The Politics of Education: A Critical Introduction. Routledge.

Kumar, A. (2019). Public Expenditure on Education in India: An Analysis. Journal of Education and Social Policy, 6(4), 99-110.

Kumar, S. (2020). Education Budgets in South Asia: Towards a Comparative Perspective. Compare: A Journal of Comparative and International Education, 50(1), 95-112.

Kumar, S. (2020). Financing Secondary Education in India: A Critical Appraisal. Journal of Educational Planning and Administration, 34(3), 207-220.

Kundu, A. (2018). The Effectiveness of Public Spending on Education and Health Care in the Indian Economy. The Indian Economic Journal, 65(1-4), 140-158. https://doi.org/10.1177/0019466217727885

Levin, H. (1988). Cost-Effectiveness and Educational Policy. Educational Evaluation and Policy Analysis, 10(1), 51-69. https://doi.org/10.3102/01623737010001051

Ministry of Finance. (2023). Union Budget. Government of India.

Mitra, A. (2015). Public Spending in Higher Education in India: A Benefit Incidence Analysis. Higher Education for the Future, 2(1), 71-91. https://doi.org/10.1177/2347631114558191

OECD. (2021). Digital Education Policy Outlook 2021. OECD Publishing.

Oriakhi, D. E., & Ameh, G. (2014). Government Expenditure and the Development of the Education Sector in Nigeria: An Evaluation. Review of Public Administration and Management, 3(5), 147-160.

Patrick, J., et al. (2011). Cost-Effectiveness Analysis of Education and Health Interventions in Developing Countries. Inter-American Development Bank, 1, 1-43. IDB-TN-332.

Sasikumar, G. (2019). Analysis on Improvement of School and Higher Education in Tamil Nadu. The International Journal of Analytical and Experimental Modal Analysis, 11(9), 2840-2856.

Sharma, R., Singh, S. K., & Kumar, P. (2018). Teacher Recruitment and Retention in India: The Role of Salary and Non-Salary Incentives. International Journal of Educational Development, 62, 53-63.

Smith, J. (2018). Education Expenditure and Economic Growth: An Empirical Analysis. International Journal of Educational Development, 61, 165-173.

Solihin, A., et al. (2017). Efficiency and Effectiveness of Government Expenditure on Education at Districts/Cities Level in East Java, Indonesia. Asian Social Science, 13(8). https://doi.org/10.5539/ass.v13n8p91

Tamang, P. (2011). The Impact of Education Expenditure on India's Economic Growth. Journal of International Academic Research, 11(3), 14-20.

UNESCO. (2018). Inclusion and Education: All Means All. Global Education Monitoring Report. Unesco.

Uchenna, C., et al. (2016). Government Education Spending and Education Outcome in Nigeria. International Journal of Economics, Finance and Management Sciences, 4(4), 223-226. https://doi.org/10.11648/j.ijefm.20160404.18

University Grants Commission. (2021). Higher Education in India: At a Glance.

Vítek, L., & Martínková, L. (2015). Assessment of Efficiency of Expenditure Programmes in Education: Primary Education in the Czech Republic. Procedia Economics and Finance, 25, 607-614. https://doi.org/10.1016/S2212-5671(15)00775-3

Wang, D., & Fu, M. (2009). The Evaluation of Higher Education Expenditure Performance and Investment Mechanism Reform. International Education Studies, 12(6), 575-665. https://doi.org/10.5539/ies.v2n1p18

Windham, D. M. (1988). Effectiveness Indicators in the Economic Analysis of Educational Activities. International Journal of Educational Research, 12(6), 575-665. https://doi.org/10.1016/0883-0355(88)90011-0

World Health Organization. (2022). Nurturing Care Handbook: Strategic Action 1: Lead and Invest: How to do Governance, Planning, and Financing. WHO.